

**Achievement of Market-Friendly Initiatives and Results Program
(AMIR 2.0 Program)**

Funded By U.S. Agency for International Development

**SOFTWARE DESIGN SPECIFICATION (SDS)
For
E-GOVERNMENT TRAINING MANAGEMENT
SYSTEM (TMS)**

Version 1.0

Final Report

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| 1.0 | Wa'el Insair, Abed Abu Issa, AlliedSoft | Apr 20, 2003 | Initial Version. |

1 Introduction

This Software Design Specification (SDS) document is intended to capture the complete software architecture and design for the E-Government Training Management System, based on the scope and requirements specified in the SRS document. It is intended to be used by the software development team as a means to understand how the system is implemented, and to serve as a basis for software development, testing, and deployment.

This document details the architecture and design of E-Government Training Management System in terms of the following views: the use case view (behavior), the logical view (design), process view (run time processes and their interactions), deployment view (physical system structure), and data view (data store model). Additionally, the design of the reports and the security model are specified.

1.1 Scope

The Jordanian Ministry of Information and Communication Technology (MoICT) is looking for a system to acquire and track training and testing sessions for Government of Jordan (GoJ) employees. Such a system will be Web based and available to managers, administrators, as well as the employees. Different user groups are identified and the system will implement different policies, access rights and securities per group.

The system will support a bidding process for training/testing offers and will have the ability to track employees' training/testing nomination, registration, and results. The system will accept course feedback from the trainees. Relevant reports and views are to be generated also as part of this system.

A successful solution will automate (to an extent) the process of acquiring training and testing. It will provide vision to management about the training that the GoJ employees need to complete. More efficient use of the training should be realized with such a system.

1.2 Definitions, Acronyms, and Abbreviations

The following is an alphabetized glossary of terms, acronyms, and abbreviations required to properly interpret and understand the software design.

| Term, Acronym, or Abbreviation | Definition |
|--------------------------------|--|
| ARFO | Approved Request for Offer |
| ARFT | Approved Request for Testing |
| GoJ | Government of Jordan |
| MoICT | Ministry of Information and Communication Technology |
| PMU | Project Management Unit |
| RFI | Request for Information |
| RFN | Request for Nominations |
| RFO | Request for Offer (training project) |
| RFO Response | Request for Offer Response (training project) |
| RFR | Request for Registration (training project) |
| RFT | Request for Testing Project |
| RFT Response | Request for Testing Project Response |
| TC | Training/Testing Coordinator (GoJ Entity) |

| Term, Acronym, or Abbreviation | Definition |
|--------------------------------|----------------------------------|
| Testing RFN | Testing Request for Nominations |
| Testing RFR | Testing Request for Registration |
| TP | Training/Testing Provider |

1.3 References

The following is a list of all references used to produce this SDS.

| Reference | Date | Published By | Source |
|--------------|--------------|--------------|------------|
| SRS | Jan 21, 2003 | AlliedSoft | AlliedSoft |
| SRS Addendum | Apr 06, 2003 | AlliedSoft | AlliedSoft |

2 Design Goals and Constraints

This section describes the software requirements and objectives that have some significant impact on the architecture, and also captures any other special constraints that apply.

1. A Web based system built on .NET architecture.
2. English and/or Arabic user interface and data. Normally, English will be used; Arabic will be used in all interactions involving non-administrative users (trainees). Arabic will be used when appropriate, such as for employee names and mailing addresses
3. The design is compliant with the Jordan e-Government software architecture guidelines and include a:
 - Three-tier architecture.
 - Supports application interoperability by being XML based.
 - Presenting data using XML/XSL wherever possible to enhance the portability of data presentation to multiple presentation mechanisms or devices.

3 Use Case View

This section lists use cases or scenarios from the use-case model which represent some significant, central functionality of the final system, or if they exercise many architectural elements, or if they stress or illustrate a specific delicate point of the design. It illustrates how the software actually works by giving a few selected use-case (or scenario) realizations, and explains how the various design model elements contribute to their functionality.

A use case defines a set of use-case instances, where each instance is a sequence of actions a system performs that yields an observable result of value to a particular actor. Following are the identified use cases.

3.1 Home Page and Login

Initiator: Any Actor

Description: This use case enables actors to login to the Training Management System (TMS) in order to access the application and determine their access rights.

Preconditions

Selection of a specific program from the main page of the application.

Basic Flow of Events

This use case begins when the actor attempts to login the TMS application through entering User ID and Password. The system verifies that the User ID and Password are valid [E-1] and allows the actor to login the system, and displays the workspace of the logged user.

Exceptional Flow of Events

E-1: An invalid User ID or Password is entered. The user may either re-enter the User ID and/or Password, or terminate the use case.

3.2 Create / Maintain Project

Initiator: PMU Administrator

Description: This use case enables the PMU Administrator to create/ maintain Project information.

Preconditions

The user successfully logs in as the PMU Administrator of the Program.

Basic Flow of Events

The user can create/view/update/delete a specific project.

If the activity selected is Create Training/Testing/Information Project, the *A-1: Create Project* alternative flow is performed.

If the activity selected is View, the *A-4: View Project* alternative flow is performed.

If the activity selected is Update, the *A-5: Update Project* alternative flow is performed.

If the activity selected is Delete, the *A-6: Delete Project* alternative flow is performed.

Alternative Flow of Events

A-1: Create Project

The system displays the Project creation screen. The user enters and saves the Project information [E-1], then the use case can restart or terminate.

A-2: View Project

The system displays the Project information [E-2], then the use case can restart or terminate.

A-3: Update Project

The system displays the Project screen containing information for the specified Project. The user updates and saves the information [E-1], then the use case can restart or terminate.

A-4: Delete Project

The user deletes the specified Project [E-3], then the use case can restart or terminate.

Exceptional Flow of Events

E-1: Invalid Project information is entered. The user may re-enter the invalid Project information, restart the use case, or terminate the use case.

E-2: Project information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-3: Project information cannot be removed. The user is informed that this option cannot be executed at this time. The user may restart or terminate the use case.

3.3 TP Maintenance

Initiator: System Administrator or TP Administrator

Description: This use case enables the System Administrator or TP Administrator to maintain TP information.

Preconditions

The user successfully logs in as the System Administrator or TP Administrator.

Basic Flow of Events

The System Administrator or TP Administrator can Create/View/Update/Delete the information for a specific TP.

If the activity selected is Create, the *A-1: Create TP* alternative flow is performed.

If the activity selected is View, the *A-2: View TP* alternative flow is performed.

If the activity selected is Update, the *A-3: Update TP* alternative flow is performed.

If the activity selected is Delete, the *A-4: Delete TP* alternative flow is performed.

Alternative Flow of Events

A-1: Create TP

The system displays the TP creation screen. The user enters and saves the TP information [E-1], then the use case can restart or terminate.

A-2: View TP

The system displays the specific TP information [E-2], then the use case can restart or terminate.

A-3: Update TP

The system displays the TP screen containing information for the specific TP. The user updates and saves the information [E-1], then the use case can restart or terminate.

A-4: Delete TP

The user deletes the specific TP [E-3], then the use case can restart or terminate.

Exceptional Flow of Events

E-1: Invalid TP information is entered. The user may re-enter the TP information, restart, or terminate the use case.

E-2: TP information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-3: TP information cannot be removed. The user is informed that this option cannot be executed at this time. The user may restart or terminate the use case.

3.4 Respond to Project Tasks

Initiator: TP Administrator, TC, GoJ Employee

Description: This use case enables the TP Administrator/TC/GoJ Employee to respond to their own tasks.

Preconditions

The user successfully logs in as TP Administrator, TC or GoJ Employee.

Basic Flow of Events

The TP Administrator is able to respond to the information for all types of requests such as: RFO, RFT or RFI.

If the activity selected is Task Respond, the *A-1: Task Respond* alternative flow is performed.

A-1: Task Respond

The system displays a list of all tasks assigned to the TP Administrator, the TP Administrator enters and saves the changes [E-1], then the use case can restart or terminate.

Exceptional Flow of Events

E-1: Task information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

3.5 Approve RFO/RFT

Initiator: PMU Administrator

Description: This use case enables the PMU Administrator to view all the Responses for a specific RFO/RFT and approve/reject those responses.

Preconditions

1. The user successfully logs in as PMU Administrator of the Program.
2. RFO/RFT Responses received.

Basic Flow of Events

The PMU Administrator is able to view the RFO/RFT Responses and to approve/reject those Responses.

3.6 Lab Specification

Initiator: TP Administrator

Description: This use case enables the TP Administrator to start specifying the labs used for the training/testing.

Preconditions

1. The user successfully logs in as the TP Administrator of the program.
2. Approved RFO/RFT.

Basic Flow of Events

The TP Administrator can specify the Labs where the Training/Testing will be held by entering the branch and the Capacity of each lab.

3.7 Submit RFN

Initiator: PMU Administrator

Description: This use case enables the PMU Administrator to submit Request for Nomination.

Preconditions

1. The user successfully logs in as the PMU Administrator of the program.
2. Approved RFO/RFT.

Basic Flow of Events

The PMU Administrator is able to select the TC(s) and submit the Request for Nomination, a new task will be created and assigned to the selected TC(s).

3.8 RFN Response

Initiator: TC

Description: This use case enables the TC to respond to the Request for Nomination.

Preconditions

1. The user successfully logs in as the TC.
2. RFN Submit completed successfully.

Basic Flow of Events

The TC is able to select the nominees to take the Course/Test.

3.9 Submit / Maintain RFR

Initiator: PMU Administrator

Description: This use case enables the PMU Administrator to maintain the information for RFR form.

Preconditions

1. The user successfully logs in as the PMU Administrator of the program.
2. RFN Response completed successfully.

Basic Flow of Events

The PMU Administrator is able to create/view/update/delete the information for RFR form.

If the activity selected is Create, the *A-1: Create RFR Form* alternative flow is performed.

If the activity selected is View, the *A-2: View RFR Form* alternative flow is performed.

If the activity selected is Update, the *A-3: Update RFR Form* alternative flow is performed.

If the activity selected is Delete, the *A-4: Delete RFR Form* alternative flow is performed.

Alternative Flow of Events

A-1: Create RFR Form

The system displays the RFR creation screen. The user enters and saves the RFR information [E-1], then the use case can restart or terminate.

A-2: View Request

The system displays the RFR information [E-2], then the use case can restart or terminate.

A-3: Update Request

The system displays the RFR information screen. The user updates and saves the information [E-1], then the use case can restart or terminate.

A-4: Delete Request

The user deletes the RFR information [E-3], then the use case can restart or terminate.

Exceptional Flow of Events

E-1: Request information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-2: Request cannot be submitted. The user may either re-submit the Request, restart or terminate the use case.

E-3: Information cannot be removed. The user is informed that this option cannot be executed at this time. The user may restart or terminate the use case.

3.10 RFR Response

Initiator: TC

Description: This use case enables the TC to start registering the Nominees.

Preconditions

1. The user successfully logs in as TC.
2. RFR submitted.

Basic Flow of Events

This use case enables the TC to start registering the approved nominees into different TP(s) taking into consideration the Branch and Location and the specific lab.

3.11 RFO/RFT “Go” Signal

Initiator: PMU Administrator

Description: This use case enables the PMU Administrator to inform the relevant TP(s) associated with a Training RFR or Testing RFR to start the training course or test.

Preconditions

1. The user successfully logs in as the PMU Administrator of the Program.
2. The RFR Response use case has finished successfully for the related ARFO/ARFT.

Basic Flow of Events

The PMU Administrator informs the approved TP(s) to start the training course/test [E-1].

Exceptional Flow of Events

E-1: RFR Response cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

3.12 Evaluation Form Maintenance

Initiator: PMU Administrator

Description: This use case enables the PMU Administrator to maintain the Evaluation Form for a particular Project.

Preconditions

The user successfully logs in as the PMU Administrator of the program.

Basic Flow of Events

The PMU Administrator is able to create/view/update/delete the training/testing project evaluation form.

The evaluation form is built by creating questions and specifying the Feedback Type for each question:

1. Rating from 1-5
2. Yes/No
3. Free-form text

If the activity selected is Create, the *A-1: Create Evaluation Form* alternative flow is performed.

If the activity selected is View, the *A-2: View Evaluation Form* alternative flow is performed.

If the activity selected is Update, the *A-3: Update Evaluation Form* alternative flow is performed.

If the activity selected is Delete, the *A-4: Delete Evaluation Form* alternative flow is performed.

Alternative Flow of Events

A-1: Create Evaluation Form

The system displays the Evaluation Form creation screen. Then the user can enter questions and specify the Feedback Type for each question [E-1].

A-2: View Evaluation Form

The system displays the Project Evaluation Form [E-2].

A-3: Update Evaluation Form

The system displays the Evaluation Form update screen. Then the user can update questions and/or Feedback Types [E-1].

A-4: Delete Evaluation Form

The user is able to delete Evaluation Forms [E-3].

Exceptional Flow of Events

E-1: Invalid evaluation information is entered. The user may re-enter the Evaluation Form information, restart, or terminate the use case.

E-2: Evaluation Form information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-3: Evaluation Form cannot be removed. The user is informed that this option cannot be executed at this time. The user may restart or terminate the use case.

3.13 Project Evaluation

Initiator: GoJ Employee

Description: This use case enables a GoJ Employee to evaluate a specific attended training/testing project.

Preconditions

1. The user successfully logs in as a GoJ Employee.
2. The Evaluation Form Maintenance use case has finished successfully for the related training/testing project.

Basic Flow of Events

The GoJ Employee is able to evaluate an attended training/testing project by filling the evaluation form. The user is allowed to fill only one evaluation for the selected training/testing project, and he/she cannot delete an evaluation once submitted.

If the activity selected is Create, the *A-1: Create Evaluation* alternative flow is performed.

If the activity selected is View, the *A-2: View Evaluation* alternative flow is performed.

If the activity selected is Update, the *A-3: Update Evaluation* alternative flow is performed.

Alternative Flow of Events

A-1: Create Evaluation

The system displays the associated Evaluation Form [E-2] [E-3] and the user enters and saves the evaluation [E-1].

A-2: Read Evaluation

The system displays the evaluation form for the selected course/test [E-4].

A-3: Update Evaluation

The system displays the selected course/test evaluation update screen. Then the user can update the evaluation information [E-1] [E-5].

Exceptional Flow of Events

E-1: Invalid evaluation information is entered. The user may re-enter the evaluation information, restart, or terminate the use case.

E-2: Evaluation Form information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-3: Evaluation information already entered. The user is allowed to update the evaluation if not already submitted. The user may restart or terminate the use case.

E-4: Evaluation information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-5: Evaluation information already submitted. The user is allowed to read but not update evaluation information. The user may restart or terminate the use case

3.14 Lookup Data Maintenance

Initiator: System Administrator

Description: This use case enables the System Administrator to maintain the Lookup Data.

Preconditions

The user successfully logs in as the System Administrator.

Basic Flow of Events

The System Administrator is able to create/read/update/delete Lookup Data entries, such as Locations, GoJ Entities, Cities, Countries, etc.

If the activity selected is Create, the *A-1: Create Lookup Data* alternative flow is performed.

If the activity selected is View, the *A-2: View Lookup Data* alternative flow is performed.

If the activity selected is Update, the *A-3: Update Lookup Data* alternative flow is performed.

If the activity selected is Delete, the *A-4: Delete Lookup Data* alternative flow is performed.

Alternative Flow of Events

A-1: Create Lookup Data

The system displays the Lookup Data creation screen for the selected lookup data then the user enters and saves the information [E-1].

A-2: View Lookup Data

The system displays the selected Lookup Data [E-2].

A-3: Update Lookup Data

The system displays the Lookup Data update screen for the selected lookup data. The user updates and saves the information [E-1].

A-4: Delete Lookup Data

The user deletes the selected lookup data entry [E-3].

Exceptional Flow of Events

E-1: Invalid Lookup Data is entered. The user may re-enter the lookup data, restart, or terminate the use case.

E-2: Lookup Data cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-3: Lookup Data cannot be removed. The user is informed that this option cannot be executed at this time. The user may restart or terminate the use case

3.15 GoJ Entity Maintenance

Initiator: System Administrator or TC

Description: This use case enables the System Administrator/TC to maintain GoJ Entity information.

Preconditions

The user successfully logs in as the System Administrator or the TC.

Basic Flow of Events

The System Administrator/TC is able to create/read/update/delete GoJ Entity information.

If the activity selected is Create, the *A-1: Create GoJ Entity* alternative flow is performed.

If the activity selected is View, the *A-2: View GoJ Entity* alternative flow is performed.

If the activity selected is Update, the *A-3: Update GoJ Entity* alternative flow is performed.

If the activity selected is Delete, the *A-4: Delete GoJ Entity* alternative flow is performed.

Alternative Flow of Events

A-1: Create GoJ Entity

The system displays the GoJ Entity creation screen. The user enters and saves the information [E-1].

A-2: View GoJ Entity

The system displays the selected GoJ Entity information [E-2].

A-3: Update GoJ Entity

The system displays the GoJ Entity update screen for the selected GoJ Entity. The user updates and saves the information [E-1].

A-4: Delete GoJ Entity

The user can delete the selected GoJ Entity [E-3].

Exceptional Flow of Events

E-1: Invalid GoJ Entity information is entered. The user may re-enter the information, restart, or terminate the use case.

E-2: GoJ Entity information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-3: GoJ Entity information cannot be removed. The user is informed that this option cannot be executed at this time. The user may restart or terminate the use case.

3.16 Events Maintenance

Initiator: PMU Administrator

Description: This use case enables the PMU Administrator for a Program to maintain public

events announcements for that Program.

Preconditions

The user successfully logs in as PMU Administrator for a Program.

Basic Flow of Events

The System Administrator is able to create/view/update/delete public events announcements.

If the activity selected is Create, the *A-1: Create Announcement* alternative flow is performed.

If the activity selected is View, the *A-2: View Announcement* alternative flow is performed.

If the activity selected is Update, the *A-3: Update Announcement* alternative flow is performed.

If the activity selected is Delete, the *A-4: Delete Announcement* alternative flow is performed.

Alternative Flow of Events

A-1: Create Announcement

The system displays the Announcement creation screen. The user enters and saves the information for a particular announcement [E-1].

A-2: View Announcement

The system displays information for a selected announcement [E-2].

A-3: Update Announcement

The system displays the Announcement update screen. The user updates and saves the information [E-1].

A-4: Delete Announcement

The user can delete a selected announcement [E-3].

Exceptional Flow of Events

E-1: Invalid Announcement information is entered. The user may re-enter the information, restart, or terminate the use case.

E-2: Announcement information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-3: Announcement information cannot be removed. The user is informed that this option cannot be executed at this time. The user may restart or terminate the use case.

3.17 Produce Reports

Initiator: Any Actor

Description: This use case enables an actor to request and produce reports, depending on the type of Actor.

Preconditions

The user successfully logs in.

Basic Flow of Events

The user is able to select and display reports [E-1] based on the type of user.

If the user selects to print the report, the *A-1: Print Report* alternative flow is performed.

If the user selects to e-mail the report, the *A-2: E-Mail Report* alternative flow is performed.

If the user selects to export the report, the *A-3: Export Report* alternative flow is performed.

Alternative Flow of Events

A-1: Print Report

After the report is displayed, the user can print the report to a printer defined at the client machine [E-2].

A-2: E-Mail Report

After the report is displayed, the user can e-mail the report to an e-mail recipient [E-3].

A-3: Export Report

After the report is displayed, the user can export the data for some of the reports to a Comma Separated Variable (CSV) file on the client machine [E-4], that can be opened with Microsoft Excel for further data analysis.

Exceptional Flow of Events

E-1: Report information cannot be accessed. The user is informed that this option is not available at this time. The user may restart or terminate the use case.

E-2: Report cannot be printed. The user is informed that this option cannot be executed. The user may restart or terminate the use case.

E-3: Report cannot be e-mailed. The user is informed that this option cannot be executed. The user may restart or terminate the use case.

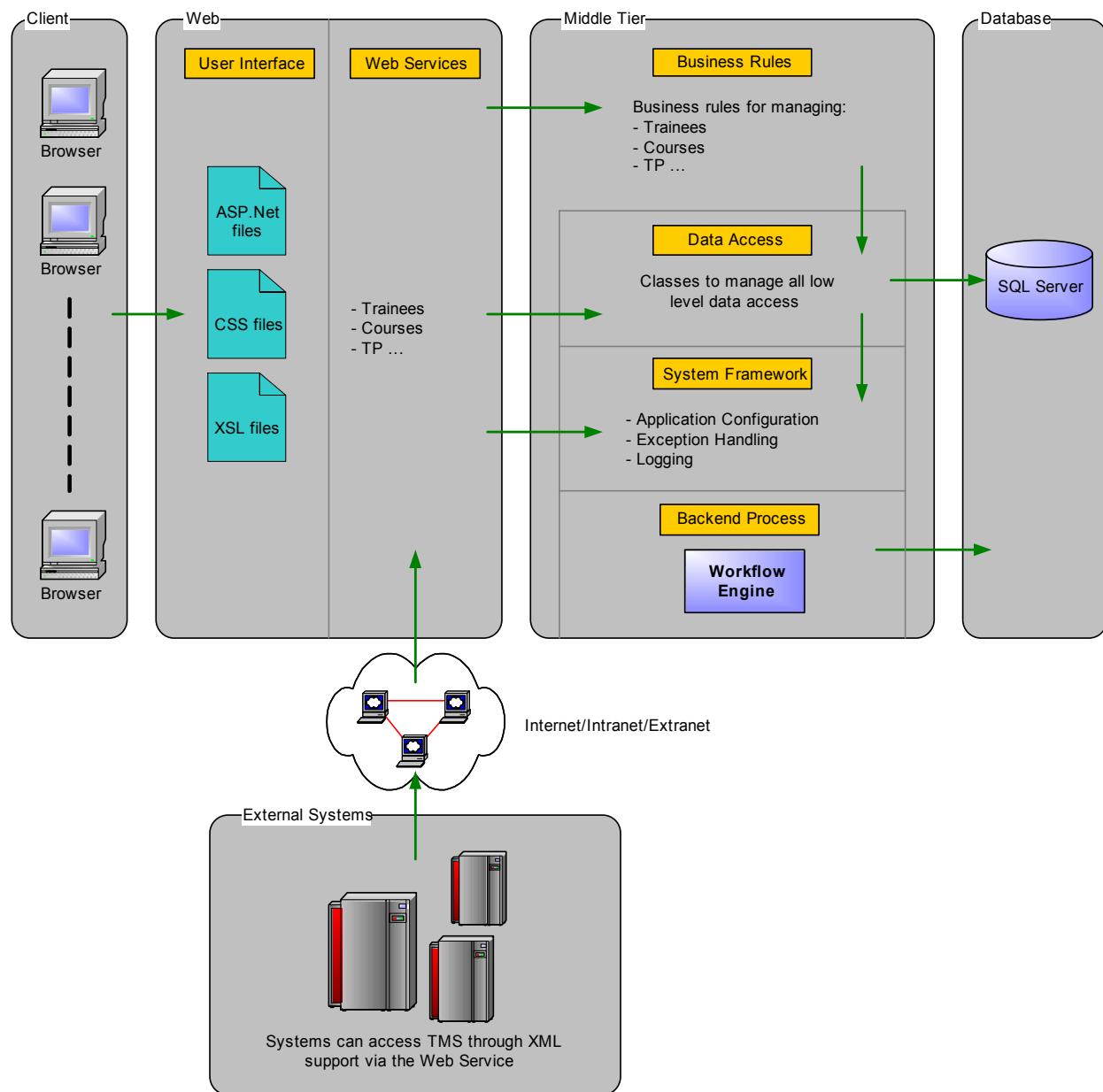
E-4: Report cannot be exported. The user is informed that this option cannot be executed. The user may restart or terminate the use case.

4 Logical View

This section describes the significant parts of the design model, such as its decomposition into subsystems and packages. A *package* is a general purpose mechanism for organizing elements into logical groups. Packages may be nested within other packages. The constituent classes are shown for each significant package.

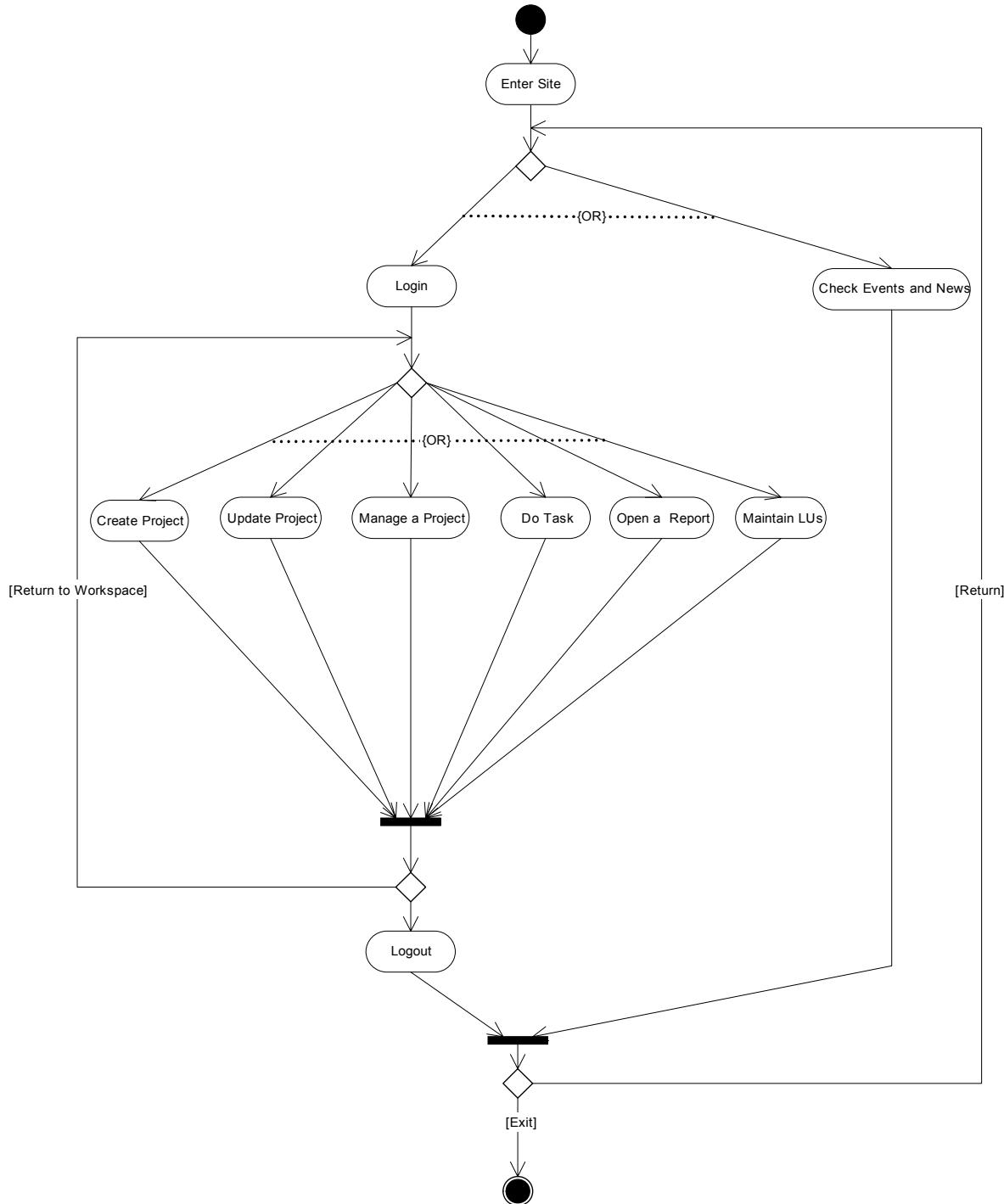
4.1 High Level Architecture

The high level architecture of the system is shown below.



4.2 Top Level Activity Diagram

The top level Activity Diagram for the system is shown below.

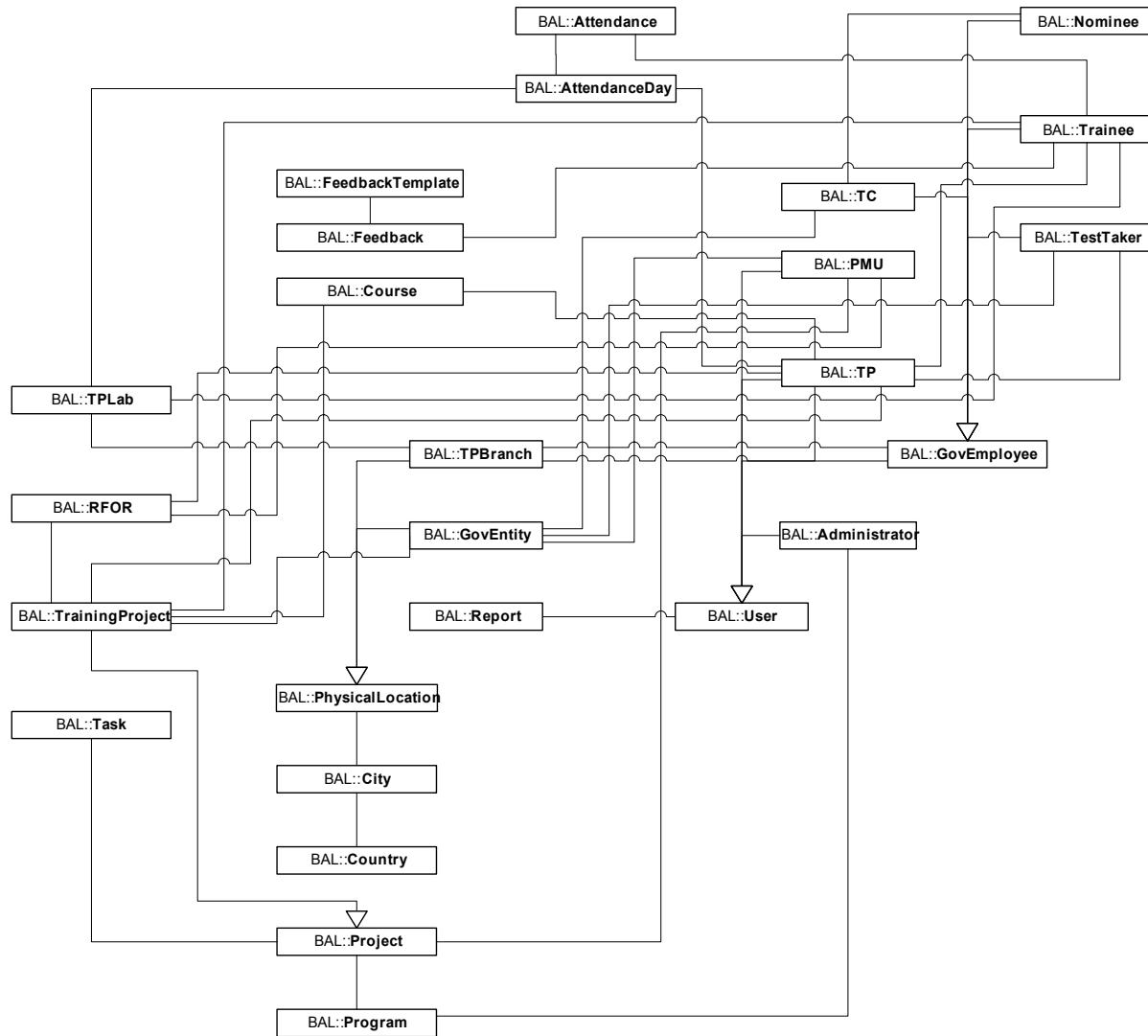


4.3 Business Rules Layer

Business Rules Layer consists of all business rules that will be applied within the system. These rules are encapsulated in different business classes which interact with User Access Layer to provide it by necessary information need by the user.

At the backend, this layer interacts with the Data Access Layer which extracts data from the Database and sends it forward to the Business Rules Layer.

4.3.1 Business Access Layer Class Diagram



4.3.2 Class: Administrator

Description

This class represents the administrator user who has full privileges over the system.

Super Class: User

4.3.3 Class: Attendance

Description

This class is responsible for Trainees attendance registry. It contains information needed to track attendance for certain Trainee within Project, Lab and Day.

Operations

GetDayAttendance

This method returns all Attendances that related to a Lap for certain day for all trainees.

| | | | | |
|---------------------|----------------------------|---------------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Array of Attendance object | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TPLab | TPLab | In | |
| | AttendanceDay | AttendanceDay | In | |

UpdateDayAttendance

This method updates attendance for certain Lab and Date.

| | | | | |
|---------------------|---------------|---------------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Boolean | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TPLab | TPLab | In | |
| | AttendanceDay | AttendanceDay | In | |

Attributes

Project

| | | | | |
|--------------------|---------|--|--|--|
| Visibility: | Public | | | |
| Type: | Project | | | |

TPLab

| | | | | |
|--------------------|--------|--|--|--|
| Visibility: | Public | | | |
| Type: | TPLab | | | |

AttendanceDay

| | | | | |
|--------------------|---------------|--|--|--|
| Visibility: | Public | | | |
| Type: | AttendanceDay | | | |

Trainee

| | | | | |
|--------------------|---------|--|--|--|
| Visibility: | Public | | | |
| Type: | Trainee | | | |

Attendance

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Boolean |

4.3.4 Class: AttendanceDay**Description**

This class is responsible for managing Attendance Days for certain lab within a training project.

Operations**GetAttendanceDays**

This method returns all Attendance Days for certain Lab.

| | | | |
|---------------------|-------------------------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | Array of AttendanceDay object | | |
| Parameters: | Name | Type | Kind |
| | TPLab | TPLab | In |

AddDay

This method adds an attendance day for a Lab.

| | | | |
|---------------------|-------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | | | |
| Parameters: | Name | Type | Kind |
| | TPLab | TPLab | In |
| | Day | Date | In |

Attributes**Project**

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Project |

TPLab

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | TPLab |

DayDate

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | Date |

4.3.5 Class: City**Description**

This class presents a city within a country for physical location usage.

Operations

GetAllCities

This method returns all cities for certain country

| | | | |
|---------------------|----------------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | Array of City object | | |
| Parameters: | Name | Type | Kind |
| | Country | Country | In |

Attributes

Name

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Country

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Country |

4.3.6 Class: Country

Description

This class represents the country for physical location usage.

Operations

GetAllCountries

This method return all countries stored in the system

| | |
|---------------------|--------------------------|
| Visibility: | Public |
| Return Type: | Array of Country objects |

Attributes

Name

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

4.3.7 Class: Course

Description

This class represents the courses in general.

Operations

GetCourseList

This method returns all courses stored in the system

| | |
|---------------------|-------------------------|
| Visibility: | Public |
| Return Type: | Array of Course objects |

Attributes

Title

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

4.3.8 Class: Feedback

Description

This class is responsible for managing the feedback of a Trainee for certain training project based on a Feedback Template.

Operations

AddFeedback

This method is used to add a trainee feedback for certain training project.

| | | | | |
|---------------------|------------------|------------------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | FeedbackTemplate | FeedbackTemplate | In | |
| | Trainee | Trainee | In | |
| | TPLab | TPLab | In | |
| | Answers | Array of String | | |

Attributes

FeedbackTemplate

| | |
|--------------------|------------------|
| Visibility: | Public |
| Type: | FeedbackTemplate |

Trainee

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Trainee |

TPLab

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | TPLab |

Answers

| | |
|--------------------|-----------------|
| Visibility: | Public |
| Type: | Array of String |

4.3.9 Class: FeedbackTemplate

Description

This class represents the Feedback Template.

Operations

GetFeedbackTemplate

This method returns a feedback template.

| | | | |
|---------------------|------------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | FeedbackTemplate | | |
| Parameters: | Name | Type | Kind |
| | ID | Integer | In |

4.3.10 Class: GovEmployee

Description

This class represents the Gov. Employee user. They are listed within certain Gov entities.

Super Class: User

Operations

GetGovEntityEmployees

This method returns all employees for certain Gov. Entity.

| | | | |
|---------------------|------------------------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | Array of GovEmployee objects | | |
| Parameters: | Name | Type | Kind |
| | GovEntity | GovEntity | In |

Attributes

NationalID

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

EmpName1

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

EmpName2

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

EmpName3

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
|--------------------|--------|--|--|

| | |
|-------|--------|
| Type: | String |
|-------|--------|

EmpName4

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

JobTitle

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

Tel

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

Cell

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

HomeTel

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

Fax

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

Email

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

Gender

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

GovEntity

| | |
|-------------|-----------|
| Visibility: | Public |
| Type: | GovEntity |

4.3.11 Class: GovEntity**Description**

This class represents the Government Entity that consists of employees and has Physical Location attributes.

Super Class: PhysicalLocation

Operations

GetGovEntityInfo

This method returns Government Entity information

| | | | | |
|---------------------|-------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | GovEntity | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | GovEntityID | Integer | In | |

GetGovEntitiesForProject

This method returns all Gov Entities registered for a Project

| | | | | |
|---------------------|-----------------|-----------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TrainingProject | TrainingProject | In | |
| | | | | |

FilterApprovedGovEntities

This method filters the approved Gov Entities.

| | | | | |
|---------------------|----------------------------|---------------------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Array of GovEntity objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | GovEntities | Array of GovEntity object | In | |

Attributes

Location

| | | | | |
|--------------------|------------------|--|--|--|
| Visibility: | Public | | | |
| Type: | PhysicalLocation | | | |

TC

| | | | | |
|--------------------|--------|--|--|--|
| Visibility: | Public | | | |
| Type: | TC | | | |

Name

| | | | | |
|--------------------|--------|--|--|--|
| Visibility: | Public | | | |
| Type: | String | | | |

Tel

| | | | | |
|--------------------|--------|--|--|--|
| Visibility: | Public | | | |
| Type: | String | | | |

Fax

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Email

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

WebSite

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

POBox

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

PostCode

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

4.3.12 Class: Nominee**Description**

This class represents the nominees within a project and it has the same behavior of the GovEmployee.

Super Class: GovEmployee**Operations****AddNominee**

This method is to add a new nominee for certain project

| | | | | |
|---------------------|-------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Project | Project | In | |
| | GovEmployee | GovEmployee | In | |

GetNominees

This method returns all nominees for certain project

| | | | | |
|---------------------|--------------------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Array of Nominee objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Project | Project | In | |

ApproveNominee

This method is used to approve a nominee

| | | | |
|---------------------|----------|---------|------|
| Visibility: | Public | | |
| Return Type: | | | |
| Parameters: | Name | Type | Kind |
| | Nominee | Nominee | In |
| | Approved | Boolean | In |

GetApprovedNominees

This method returns all approved nominees for certain project

| | | | |
|---------------------|--------------------------|---------|------|
| Visibility: | Public | | |
| Return Type: | Array of Nominee objects | | |
| Parameters: | Name | Type | Kind |
| | Project | Project | In |

FilterApprovedNominees

This method is used to filter the approved nominees for given nominees' list.

| | | | |
|---------------------|-------------------------|--------------------------|------|
| Visibility: | Private | | |
| Return Type: | Array of Nominee Object | | |
| Parameters: | Name | Type | Kind |
| | Nominees | Array of Nominees object | In |
| | | | |

RegisterNominee

This method is used to register a nominee as a trainee in certain Lab.

| | | | |
|---------------------|---------|---------|------|
| Visibility: | Public | | |
| Return Type: | Trainee | | |
| Parameters: | Name | Type | Kind |
| | Nominee | Nominee | In |
| | TPLab | TPLab | In |

Attributes**Approved**

| | | | |
|--------------------|---------|--|--|
| Visibility: | Public | | |
| Type: | Boolean | | |

Project

| | | | |
|--------------------|---------|--|--|
| Visibility: | Public | | |
| Type: | Project | | |

4.3.13 Class: PhysicalLocation

Description

This class is used to manage a physical location which has certain City and address.

Sub Classes: GovEntity, TPBranch

Attributes

City

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | City |

Address

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Description

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

4.3.14 Class: PMU

Description

This class represents the PMU user who can create and manage a project.

Super Class: User

4.3.15 Class: Program

Description

This class represents the program which consist projects.

Operations

GetProgramList

This method returns all programs that registered in the system.

| | |
|---------------------|-------------------------|
| Visibility: | Public |
| Return Type: | Array of Program object |

Attributes

Description

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

StartDate

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | Date |

PMU

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | PMU |

Subject

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

StakeHolder

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Budget

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Status

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Integer |

Description

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Description

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

4.3.16 Class: Project**Description**

This class is the general class for all types of project, and it's responsible for managing all the tasks related through the workflow engine.

Operations**GetProject**

This method returns a project by its ID.

| | | | | |
|---------------------|-------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Project | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | ProjectID | Integer | In | |

CheckProjectType

This method returns the project type whether it's Training, Testing or Request for Information project by its ID.

| | | | |
|---------------------|-------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | String | | |
| Parameters: | Name | Type | Kind |
| | ProjectID | Integer | In |

GetProjectsForUser

This method returns all projects for certain user.

| | | | |
|---------------------|--------------------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | Array of Project objects | | |
| Parameters: | Name | Type | Kind |
| | User | User | In |

ChangeProjectStatus

This method changes the status of certain project.

| | | | |
|--------------------|-------------|-------------|-------------|
| Visibility: | Public | | |
| Parameters: | Name | Type | Kind |
| | NewStatus | String | In |

AreAllTasksDue

This method checks whether all tasks for certain project are due for certain task type or not.

| | | | |
|---------------------|-------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | Boolean | | |
| Parameters: | Name | Type | Kind |
| | Project | Project | In |

CheckProjectsTasks

This method is invoked by the workflow engine to assure that all the tasks for all projects are due or not and if they are due for certain project then the project status will be changed respectively.

| | |
|--------------------|--------|
| Visibility: | Public |
|--------------------|--------|

Attributes**Title**

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Status

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

StartDate

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | Date |

EndDate

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | EndDate |

4.3.17 Class: Report**Description**

This class is responsible to manage all reports that defined in the system.

Operations**GetReportsForUser**

This method returns all reports that certain user can access.

| | | | | |
|---------------------|-------------------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Array of Report objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | User | User | In | |

Attributes**Title**

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

ExportedToExcel

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Boolean |

Printable

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Boolean |

Users

| | |
|--------------------|-----------------------|
| Visibility: | Public |
| Type: | Array of User objects |

4.3.18 Class: RFOR**Description**

This class is responsible for managing the RFORs (Request For Offer Response) that are sent by the TPs.

Operations

Send

This method stores the RFOR and send to the PMU.

| | | | | |
|--------------------|--------|------|------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | RFOR | RFOR | In | |

GetProjectRFORs

This method returns all RFORs for certain training project.

| | | | | |
|---------------------|-----------------------|-----------------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Array of RFOR objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TrainingProject | TrainingProject | In | |

GetRFOR

This method returns a RFOR by its ID.

| | | | | |
|---------------------|--------|---------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | RFOR | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | RFORID | Integer | In | |

RejectRFOR

This method is used to reject the RFOR by the PMU

| | | | | |
|--------------------|--------|------|------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | RFOR | RFOR | In | |

ApproveRFOR

This method is used to approve the RFOR by the PMU

| | | | | |
|--------------------|--------|------|------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | RFOR | RFOR | In | |

CheckProjectRFORs

This method is used to check whether all RFORs for certain training project have been rejected/approved by the PMU

| | | | | |
|---------------------|---------|--|--|--|
| Visibility: | Public | | | |
| Return Type: | Boolean | | | |

| Parameters: | Name | Type | Kind | Default Value |
|-------------|-----------------|-----------------|------|---------------|
| | TrainingProject | TrainingProject | In | |

Attributes

TP

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | TP |

Capacity

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Integer |

Cost

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | Single |

4.3.19 Class: Task

Description

This task is used to manage different type of tasks within certain project and its tracked by the workflow engine.

Operations

SendTask

This method is used to send a task to certain user.

| | | | | |
|--------------------|-------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Type | String | In | |
| | DueDate | Date | In | |
| | User | User | In | |

GetTasksForUser

This method returns all tasks for certain user.

| | | | | |
|---------------------|-----------------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Array of Task objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | User | User | In | |

GetTaskInfo

This method returns a task by its ID.

| | |
|---------------------|--------|
| Visibility: | Public |
| Return Type: | Task |

| Parameters: | Name | Type | Kind | Default Value |
|-------------|--------|---------|------|---------------|
| | TaskID | Integer | In | |

SubmitTask

This method is used to submit a task by a user.

| Visibility: | Public | | | |
|--------------------|--------|------|------|---------------|
| Parameters: | Name | Type | Kind | Default Value |
| | Task | Task | In | |

ReceiveTask

This method is used indicate that the user has received the task.

| Visibility: | Public | | | |
|--------------------|--------|------|------|---------------|
| Parameters: | Name | Type | Kind | Default Value |
| | Task | Task | In | |

GetAllDueTasks

This method returns all due tasks in the system.

| | | | | |
|---------------------|-----------------------|--|--|--|
| Visibility: | Public | | | |
| Return Type: | Array of Task objects | | | |

FilterDueTasks

This method is used to filter the due tasks for a given list of tasks.

| Visibility: | Public | | | |
|---------------------|-----------------------|----------------------|------|---------------|
| Return Type: | Array of Task objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Tasks | Array of Task object | In | |

ChangeTaskStatus

This method is used to change a Task status

| Visibility: | Public | | | |
|--------------------|-----------|--------|------|---------------|
| Parameters: | Name | Type | Kind | Default Value |
| | Task | Task | In | |
| | NewStatus | String | In | |

Attributes**User**

| | | | | |
|--------------------|--------|--|--|--|
| Visibility: | Public | | | |
| Type: | User | | | |

DueDate

| | | | | |
|--------------------|--------|--|--|--|
| Visibility: | Public | | | |
| Type: | Date | | | |

Status

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

NewProjectStatus

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Project

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Project |

4.3.20 Class: TC**Description**

This class represents the TC as a user.

Super Class: GovEmployee

Operations**GetAllTCs**

This method returns all TCs defined in the system.

| | |
|---------------------|--------------------|
| Visibility: | Public |
| Return Type: | Array of TC object |

AddTCsToProject

This method is used to add a list of TCs to a Training Project.

| Visibility: | Public | | | |
|--------------------|-----------------|---------------------|-------------|----------------------|
| Parameters: | Name | Type | Kind | Default Value |
| | TCs | Array of TC objects | In | |
| | TrainingProject | TrainingProject | | |

GetTCsForProject

This method returns all TCs for certain project.

| Visibility: | Public | | | |
|---------------------|--------------------|-----------------|-------------|----------------------|
| Return Type: | Array of TC object | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TrainingProject | TrainingProject | In | |
| | | | | |

FilterApprovedTCs

This method is used to filter the approved TCs from a given list of TCs.

| | | | |
|---------------------|---------------------|---------------------|-------------|
| Visibility: | Public | | |
| Return Type: | Array of TC objects | | |
| Parameters: | Name | Type | Kind |
| | TCs | Array of TC objects | In |

GetTCInfo

This method return TC for certain ID.

| | | | |
|---------------------|-------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | TC | | |
| Parameters: | Name | Type | Kind |
| | ID | Integer | In |

4.3.21 Class: TP**Description**

This class represents a TP user.

Super Class: User**Operations****GetTPsForCourses**

This method returns a list of TPs provides a list of Courses

| | | | |
|---------------------|---------------------|-------------------------|-------------|
| Visibility: | Public | | |
| Return Type: | Array of TP objects | | |
| Parameters: | Name | Type | Kind |
| | Courses | Array of Course objects | In |

GetTPsForCourses

This method returns a list of TPs provides a list of Courses

| | | | |
|---------------------|---------------------|-------------------------|-------------|
| Visibility: | Public | | |
| Return Type: | Array of TP objects | | |
| Parameters: | Name | Type | Kind |
| | Courses | Array of Course objects | In |

GetTPIInfo

This method returns a TP for certain ID

| | | | |
|---------------------|-------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | TP | | |
| Parameters: | Name | Type | Kind |
| | ID | Integer | In |

GetApprovedTPs

This method returns a list of approved TPs for certain training project.

| | | | | |
|---------------------|---------------------|-----------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Array of TP objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TrainingProject | TrainingProject | In | |

FilterApprovedTPs

This method is used to filter approved TPs for given list of TPs.

| | | | | |
|---------------------|---------------------|----------------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Array of TP objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TPs | Array of TPs objects | In | |

CloseTraining

This method is used to close Training for certain TPs

| | | | | |
|--------------------|-------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TP | TP | In | |

CheckLabs

This method is used to check whether all Labs for given TP are closed or not.

| | | | | |
|---------------------|-------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Boolean | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TP | TP | In | |

Attributes

Name

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

ContactPersonName

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

WebSite

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

ProfileLink

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

ProfileText

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Email

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Tel

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Fax

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

POBox

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

PostCode

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

4.3.22 Class: TPBranch**Description**

This class represents the TP Branch as a physical location.

Super Class: PhysicalLocation

Operations**GetBranches**

This method returns all branches for given TP

| | | | | |
|---------------------|-------------------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Array of Branch objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TP | TP | In | |

Attributes**TP**

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | TP |

Name

| | |
|--------------------|--------|
| Visibility: | Public |
|--------------------|--------|

| | |
|-------|--------|
| Type: | String |
|-------|--------|

Tel

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

Fax

| | |
|-------------|--------|
| Visibility: | Public |
| Type: | String |

4.3.23 Class: TPLab**Description**

This class represents a Lab for TP.

Operations**AddLab**

This method is used to add a Lab for certain TP, TP Branch and Training Project

| Visibility: | Public | Type | Kind | Default Value |
|-------------|-----------------|-----------------|------|---------------|
| Parameters: | Name | Type | Kind | Default Value |
| | TP | TP | In | |
| | TrainingProject | TrainingProject | In | |
| | TPBranch | TPBranch | In | |

GetLabs

This method returns a list of Labs for given TP, TP Branch and Training Project

| Visibility: | Public | Type | Kind | Default Value |
|--------------|-----------------|-----------------|------|---------------|
| Return Type: | TPLab | Type | Kind | Default Value |
| Parameters: | Name | Type | Kind | Default Value |
| | TP | TP | In | |
| | TrainingProject | TrainingProject | In | |
| | TPBranch | TPBranch | In | |

CloseLab

This method is used to close training for certain Lab.

| Visibility: | Public | Type | Kind | Default Value |
|-------------|--------|-------|------|---------------|
| Parameters: | Name | Type | Kind | Default Value |
| | TPLab | TPLab | In | |

Attributes**Specificaiton**

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | String |

Capacity

| | |
|--------------------|---------|
| Visibility: | Public |
| Type: | Integer |

TPBranch

| | |
|--------------------|----------|
| Visibility: | Public |
| Type: | TPBranch |

TP

| | |
|--------------------|--------|
| Visibility: | Public |
| Type: | TP |

TrainingProject

| | |
|--------------------|-----------------|
| Visibility: | Public |
| Type: | TrainingProject |

4.3.24 Class: Trainee**Description**

This class represents the Trainee as user.

Super Class: GovEmployee**Operations****RegisterTrainee**

This method is used to register a nominee as trainee

| | | | | |
|--------------------|-----------------|-----------------|------------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name Nominee | Type Nominee | Kind In | Default Value |

GetTPTrainees

This method returns a list of Trainees for certain TP Branch.

| | | | | |
|---------------------|--------------------------|------------------|------------|---------------|
| Visibility: | Public | | | |
| Return Type: | Array of Trainee objects | | | |
| Parameters: | Name TPBranch | Type TPBranch | Kind In | Default Value |

FilterTraineesByTP

This method filters Trainees by TP.

| | | | | |
|---------------------|--------------------------|--------------------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Array of Trainee objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TP | TP | In | |
| | Trainees | Array of Trainee objects | | |

GetLabTrainee

This method returns Trainees for certain TP Lab.

| | | | | |
|---------------------|--------------------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Array of Trainee objects | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TPLab | TPLab | In | |

Attributes**Lab**

| | | | | |
|--------------------|--------|--|--|--|
| Visibility: | Public | | | |
| Type: | TPLab | | | |

4.3.25 Class: TrainingProject**Description**

This class represents a training project.

Super Class: Project**Operations****AddProject**

This method is used to add a Training Project of certain program.

| | | | | |
|--------------------|-------------|-------------|-------------|----------------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Program | Program | In | |
| | | | | |

CheckProjectStatus

This method is used to check project status whether all its tasks are due or not.

| | | | | |
|---------------------|-----------------|-----------------|-------------|----------------------|
| Visibility: | Public | | | |
| Return Type: | Boolean | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TrainingProject | TrainingProject | In | |

GetTrainingProject

This method returns a Training Project for given ID.

| | | | |
|---------------------|-----------------|---------|------|
| Visibility: | Public | | |
| Return Type: | TrainingProject | | |
| Parameters: | Name | Type | Kind |
| | ProjectID | Integer | In |

SendLabRegistrationTask

This method is used to send Lab Registration task for TPs within a given Training Project.

| | | | |
|--------------------|-----------------|-----------------|------|
| Visibility: | Public | | |
| Parameters: | Name | Type | Kind |
| | TrainingProject | TrainingProject | In |

FilterApprovedRFORs

This method filters the approved RFORs for a given RFOR list.

| | | | |
|---------------------|-----------------------|-----------------------|------|
| Visibility: | Public | | |
| Return Type: | Array of RFOR objects | | |
| Parameters: | Name | Type | Kind |
| | RFORs | Array of RFOR objects | In |

SendRFNTask

This method is used to send RFN task for TCs within a given Training Project.

| | | | |
|--------------------|-----------------|-----------------|------|
| Visibility: | Public | | |
| Parameters: | Name | Type | Kind |
| | TrainingProject | TrainingProject | In |

SendRFRTask

This method is used to send RFR task for TCs within a given Training Project.

| | | | |
|--------------------|-----------------|-----------------|------|
| Visibility: | Public | | |
| Parameters: | Name | Type | Kind |
| | TrainingProject | TrainingProject | In |

GetApprovedRFOR

This method returns the approved RFORs for a given Training Project.

| | | | |
|---------------------|-----------------------|------|------|
| Visibility: | Public | | |
| Return Type: | Array of RFOR objects | | |
| Parameters: | Name | Type | Kind |

| | | | | |
|--|-----------------|-----------------|----|--|
| | TrainingProject | TrainingProject | In | |
|--|-----------------|-----------------|----|--|

SendBeginTrainingTask

This method is used to send Begin Training task for TPs within a given Training Project.

| | | | | |
|--------------------|-----------------|-----------------|------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TrainingProject | TrainingProject | In | |

CloseTraining

This method is used to close training for a given Training Project.

| | | | | |
|--------------------|-----------------|-----------------|------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TrainingProject | TrainingProject | In | |

CheckLabs

This method is used to check whether all Labs for a Training Project have been closed or not.

| | | | | |
|---------------------|-----------------|-----------------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Boolean | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TrainingProject | TrainingProject | In | |

4.3.26 Class: User**Description**

This a general class for all types of Users.

Operations**Login**

This method is used to make the user to login to the system

| | | | | |
|---------------------|--------------|--------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Boolean | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | UserName | String | In | |
| | UserPassword | String | In | |

CheckUserNameAndPassword

This method is used to check whether a given User Name and Password combination is valid or not.

| | | | |
|---------------------|--------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | Boolean | | |
| Parameters: | Name | Type | Kind |
| | UserName | String | In |
| | UserPassword | String | In |

GetWorkSpace

This method returns a workspace for certain user

| | | | |
|---------------------|-------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | Workspace | | |
| Parameters: | Name | Type | Kind |
| | User | User | In |

CheckUserTpye

This method returns the type for given user.

| | | | |
|---------------------|-------------|-------------|-------------|
| Visibility: | Public | | |
| Return Type: | String | | |
| Parameters: | Name | Type | Kind |
| | User | User | In |

BuildWorkSpace

This method build the workspace from different items that the user has privilege to access

| | | | |
|--------------------|-------------|-------------|-------------|
| Visibility: | Public | | |
| Parameters: | Name | Type | Kind |
| | User | User | In |

Attributes

LoginName

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

Password

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

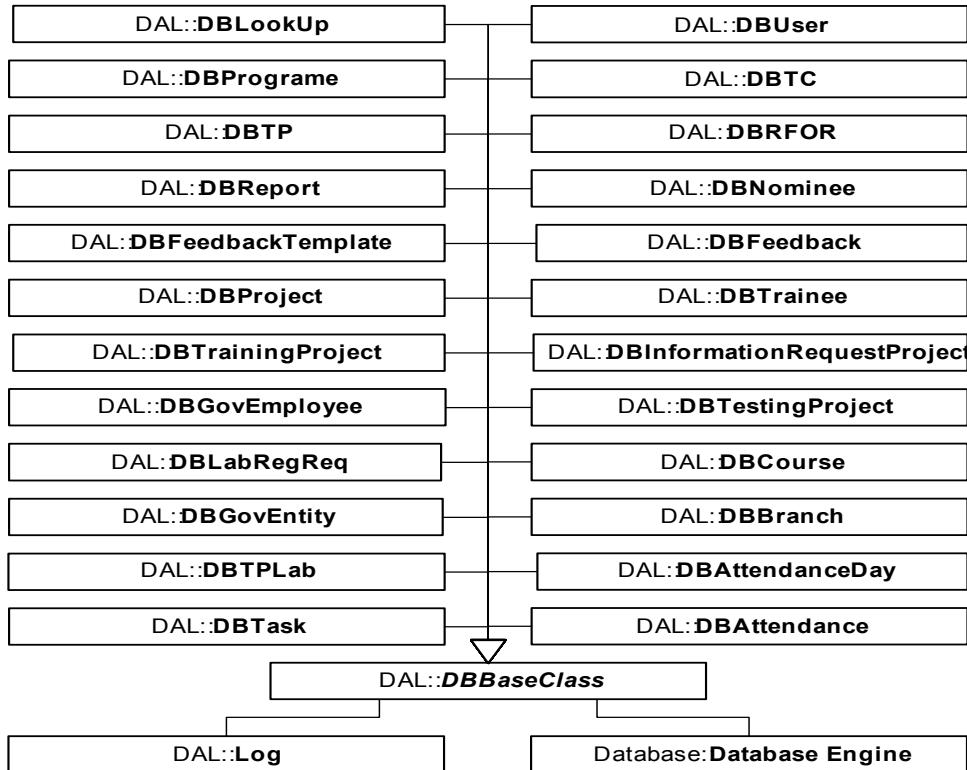
Type

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| Type: | String | | |

4.4 Data Access Layer

The Data Access Layer acts as intermediate stage between the Business Rules Layer and Database to provide kind of isolation between different functional layers. It consists of DBaseClass which acts as base for all Data Access Layer classes and provide a connection to the Database using connection string. On the other hand, this layer contains the Log class which responsible for logging.

4.4.1 Data Access Layer Class Diagram



4.4.2 Class: DBAttendance

Super Class: DBBaseClass

Operations

GetAttendance

| | | | | |
|---------------------|---------|---------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | DayID | Integer | In | |
| | TPLabID | Integer | | |

UpdateAttendance

| | | | | |
|--------------------|--------|--|--|--|
| Visibility: | Public | | | |
|--------------------|--------|--|--|--|

| Parameters: | Name | Type | Kind | Default Value |
|-------------|------------|---------|------|---------------|
| | Attendance | Dataset | In | |

4.4.3 Class: DBAttendanceDay

Super Class: DBBaseClass

Operations

GetAttendanceDays

| | | | |
|---------------------|---------|---------|------|
| Visibility: | Public | | |
| Return Type: | Dataset | | |
| Parameters: | Name | Type | Kind |
| | LabID | Integer | In |

InsertDay

| | | | |
|---------------------|---------------|---------|------|
| Visibility: | Public | | |
| Return Type: | Dataset | | |
| Parameters: | Name | Type | Kind |
| | AttendanceDay | Dataset | In |

4.4.4 Class: DBBaseClass

Operations

ConnetDB

| | | | |
|---------------------|-------------------|--------|------|
| Visibility: | Public | | |
| Return Type: | Connection object | | |
| Parameters: | Name | Type | Kind |
| | ConnectionString | String | In |

LogErr

| | | | |
|--------------------|--------|--------|------|
| Visibility: | Public | | |
| Parameters: | Name | Type | Kind |
| | ErrMsg | String | In |

LogInfo

| | | | |
|--------------------|--------|--------|------|
| Visibility: | Public | | |
| Parameters: | Name | Type | Kind |
| | ErrMsg | String | In |

LogWarning

| | | | |
|--------------------|------------|--------|------|
| Visibility: | Public | | |
| Parameters: | Name | Type | Kind |
| | WarningMsg | String | In |

InsertRow

| | | | | |
|--------------------|--------|---------|------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Row | Datarow | In | |

UpdateRow

| | | | | |
|--------------------|--------|---------|------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Row | Datarow | In | |

DeleteRow

| | | | | |
|--------------------|--------|---------|------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Row | Datarow | In | |

QuerySet

| | | | | |
|---------------------|---------|--------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | SQLStm | String | In | |

4.4.5 Class: DBBranch**Super Class:** DBBaseClass**Operations****GetBranches**

| | | | | |
|---------------------|---------|---------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TPID | Integer | In | |

4.4.6 Class: DBCourse**Super Class:** DBBaseClass**Operations****GetAllCourses**

| | | | | |
|---------------------|---------|--|--|--|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |

GetCoursesForTP

| | | | | |
|---------------------|---------|------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |

| | | | | |
|--|------|---------|----|--|
| | TPID | Integer | In | |
| | | | | |

4.4.7 Class: DBFeedback

Super Class: DBBaseClass

4.4.8 Class: DBFeedbackTemplate

Super Class: DBBaseClass

Operations

GetFeedbackTemplate

| Visibility: | Public | | | | | | | | |
|---------------------|--|------|---------------|------|---------------|--------------------|---------|----|--|
| Return Type: | Dataset | | | | | | | | |
| Parameters: | <table> <tr> <th>Name</th> <th>Type</th> <th>Kind</th> <th>Default Value</th> </tr> <tr> <td>FeedbackTemplateID</td> <td>Integer</td> <td>In</td> <td></td> </tr> </table> | Name | Type | Kind | Default Value | FeedbackTemplateID | Integer | In | |
| Name | Type | Kind | Default Value | | | | | | |
| FeedbackTemplateID | Integer | In | | | | | | | |
| | | | | | | | | | |

4.4.9 Class: DBGovEmployee

Super Class: DBBaseClass

Operations

GetGovEntityEmployees

| Visibility: | Public | | | | | | | | |
|---------------------|---|------|---------------|------|---------------|-------------|---------|----|--|
| Return Type: | Dataset | | | | | | | | |
| Parameters: | <table> <tr> <th>Name</th> <th>Type</th> <th>Kind</th> <th>Default Value</th> </tr> <tr> <td>GovEntityID</td> <td>Integer</td> <td>In</td> <td></td> </tr> </table> | Name | Type | Kind | Default Value | GovEntityID | Integer | In | |
| Name | Type | Kind | Default Value | | | | | | |
| GovEntityID | Integer | In | | | | | | | |
| | | | | | | | | | |

4.4.10 Class: DBGovEntity

Super Class: DBBaseClass

Operations

GetGovEntityInfo

| Visibility: | Public | | | | | | | | |
|---------------------|---|------|---------------|------|---------------|-------------|---------|----|--|
| Return Type: | Dataset | | | | | | | | |
| Parameters: | <table> <tr> <th>Name</th> <th>Type</th> <th>Kind</th> <th>Default Value</th> </tr> <tr> <td>GovEntityID</td> <td>Integer</td> <td>In</td> <td></td> </tr> </table> | Name | Type | Kind | Default Value | GovEntityID | Integer | In | |
| Name | Type | Kind | Default Value | | | | | | |
| GovEntityID | Integer | In | | | | | | | |
| | | | | | | | | | |

GetGovEntitiesForProject

| | |
|---------------------|---------|
| Visibility: | Public |
| Return Type: | Dataset |

| Parameters: | Name | Type | Kind | Default Value |
|-------------|-----------|---------|------|---------------|
| | ProjectID | Integer | In | |

4.4.11 Class: DBInformationRequestProject

Super Class: DBBaseClass

Operations

GetProjectInfo

| Visibility: | Public | | | |
|---------------------|-----------|---------|------|---------------|
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | ProjectID | Integer | In | |

4.4.12 Class: DBLabRegReq

Super Class: DBBaseClass

Operations

GetTask

| Visibility: | Public | | | |
|---------------------|---------|---------|------|---------------|
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TaskID | Integer | In | |

UpdateTask

| Visibility: | Public | | | |
|--------------------|--------|---------|------|---------------|
| Parameters: | Name | Type | Kind | Default Value |
| | Task | Dataset | In | |

4.4.13 Class: DBLookUp

Super Class: DBBaseClass

Operations

GetLookUpsList

| Visibility: | Public | | | |
|---------------------|----------|--------|------|---------------|
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | UserName | String | In | |

4.4.14 Class: DBNominee

Super Class: DBBaseClass

Operations

InsertNominee

| | | | |
|--------------------|-----------------|-----------------|------------|
| Visibility: | Public | | |
| Parameters: | Name Nominee | Type Dataset | Kind In |
| | | | |

GetNominees

| | | | |
|---------------------|----------------------------------|----------------------------|------------------|
| Visibility: | Public | | |
| Return Type: | Dataset | | |
| Parameters: | Name GovEntityID ProjectID | Type Integer Integer | Kind In In |
| | | | |

GetNominees

| | | | |
|--------------------|-----------------|-----------------|------------|
| Visibility: | Public | | |
| Parameters: | Name Nominee | Type Dataset | Kind In |
| | | | |

4.4.15 Class: DBProgramme

Super Class: DBBaseClass

Operations

GetAllPrograms

| | | | |
|---------------------|---------|--|--|
| Visibility: | Public | | |
| Return Type: | Dataset | | |

GetProgramInfo

| | | | |
|---------------------|-------------------|-----------------|------------|
| Visibility: | Public | | |
| Return Type: | Dataset | | |
| Parameters: | Name ProgramID | Type Integer | Kind In |
| | | | |

4.4.16 Class: DBProject

Super Class: DBBaseClass

Operations

GetProjectInfo

| | | | |
|--------------------|--------|--|--|
| Visibility: | Public | | |
| | | | |

| | | | | |
|---------------------|-----------|---------|------|---------------|
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | ProjectID | Integer | In | |

GetProjectsList

| | | | | |
|---------------------|----------|--------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | UserName | String | In | |

UpdateProject

| | | | | |
|---------------------|---------|---------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Project | Dataset | In | |

4.4.17 Class: DBReport**Super Class:** DBBaseClass**Operations****GetReportsList**

| | | | | |
|---------------------|----------|--------|------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | UserName | String | In | |

4.4.18 Class: DBRFOR**Super Class:** DBBaseClass**Operations****InsertRFOR**

| | | | | |
|--------------------|--------|---------|------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | RFOR | Dataset | In | |

GetProectRFORs

| | | | | |
|--------------------|-----------|---------|------|---------------|
| Visibility: | Public | | | |
| ReturnType: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | ProjectID | Integer | In | |

GetRFOR

| | | | | |
|--------------------|--------|--|--|--|
| Visibility: | Public | | | |
|--------------------|--------|--|--|--|

| | | | | |
|---------------------|----------------|-----------------|------------|---------------|
| Return Type: | Dataset | | | |
| Parameters: | Name RFORID | Type Integer | Kind In | Default Value |

UpdateRFOR

| | | | | |
|--------------------|--------------|-----------------|------------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name RFOR | Type Dataset | Kind In | Default Value |

4.4.19 Class: DBTask**Super Class:** DBBaseClass**Operations****InsertTask**

| | | | | |
|--------------------|--------------|-----------------|------------|---------------|
| Visibility: | Public | | | |
| Parameters: | Name Task | Type Dataset | Kind In | Default Value |

GetTask

| | | | | |
|---------------------|----------------|-----------------|------------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name TaskID | Type Integer | Kind In | Default Value |

UpdateTask

| | | | | |
|---------------------|--------------|-----------------|------------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name Task | Type Dataset | Kind In | Default Value |

GetTasksList

| | | | | |
|---------------------|------------------|----------------|------------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name UserName | Type String | Kind In | Default Value |

GetAllTasks

| | | | | |
|---------------------|---------|--|--|--|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |

GetProjectTasks

| | | | | |
|---------------------|-------------------|-----------------|------------|---------------|
| Visibility: | Public | | | |
| Return Type: | Dataset | | | |
| Parameters: | Name ProjectID | Type Integer | Kind In | Default Value |

4.4.20 Class: DBTC

Super Class: DBBaseClass

Operations

GetAllTCs

| | |
|---------------------|---------|
| Visibility: | Public |
| Return Type: | Dataset |

AddTCsToProject

| Visibility: | Public | | | | | | | | | | | | |
|---------------------|---|------|---------------|------|---------------|-----------|---------|----|--|----|---------|----|--|
| Return Type: | Dataset | | | | | | | | | | | | |
| Parameters: | <table> <tr> <th>Name</th> <th>Type</th> <th>Kind</th> <th>Default Value</th> </tr> <tr> <td>ProjectID</td> <td>Integer</td> <td>In</td> <td></td> </tr> <tr> <td>TC</td> <td>Dataset</td> <td>In</td> <td></td> </tr> </table> | Name | Type | Kind | Default Value | ProjectID | Integer | In | | TC | Dataset | In | |
| Name | Type | Kind | Default Value | | | | | | | | | | |
| ProjectID | Integer | In | | | | | | | | | | | |
| TC | Dataset | In | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

GetTCsForProject

| Visibility: | Public | | | | | | | | |
|---------------------|---|------|---------------|------|---------------|-----------|---------|----|--|
| Return Type: | Dataset | | | | | | | | |
| Parameters: | <table> <tr> <th>Name</th> <th>Type</th> <th>Kind</th> <th>Default Value</th> </tr> <tr> <td>ProjectID</td> <td>Integer</td> <td>In</td> <td></td> </tr> </table> | Name | Type | Kind | Default Value | ProjectID | Integer | In | |
| Name | Type | Kind | Default Value | | | | | | |
| ProjectID | Integer | In | | | | | | | |
| | | | | | | | | | |

GetTCInfo

| Visibility: | Public | | | | | | | | |
|---------------------|--|------|---------------|------|---------------|------|---------|----|--|
| Return Type: | Dataset | | | | | | | | |
| Parameters: | <table> <tr> <th>Name</th> <th>Type</th> <th>Kind</th> <th>Default Value</th> </tr> <tr> <td>TCID</td> <td>Integer</td> <td>In</td> <td></td> </tr> </table> | Name | Type | Kind | Default Value | TCID | Integer | In | |
| Name | Type | Kind | Default Value | | | | | | |
| TCID | Integer | In | | | | | | | |
| | | | | | | | | | |

4.4.21 Class: DBTestingProject

Super Class: DBBaseClass

Operations

GetProjectInfo

| Visibility: | Public | | | | | | | | |
|---------------------|---|------|---------------|------|---------------|-----------|---------|----|--|
| Return Type: | Dataset | | | | | | | | |
| Parameters: | <table> <tr> <th>Name</th> <th>Type</th> <th>Kind</th> <th>Default Value</th> </tr> <tr> <td>ProjectID</td> <td>Integer</td> <td>In</td> <td></td> </tr> </table> | Name | Type | Kind | Default Value | ProjectID | Integer | In | |
| Name | Type | Kind | Default Value | | | | | | |
| ProjectID | Integer | In | | | | | | | |
| | | | | | | | | | |

4.4.22 Class: DBTP

Super Class: DBBaseClass

Operations

GetAllTP

| | |
|---------------------|---------|
| Visibility: | Public |
| Return Type: | Dataset |

GetTPInfo

| Visibility: | Public | | | |
|---------------------|---------|---------|------|---------------|
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | TPID | Integer | In | |

4.4.23 Class: DBTPLab

Super Class: DBBaseClass

Operations

InsertLab

| Visibility: | Public | | | |
|--------------------|--------|---------|------|---------------|
| Parameters: | Name | Type | Kind | Default Value |
| | Lab | Dataset | In | |

GetLabs

| Visibility: | Public | | | |
|---------------------|-----------|---------|------|---------------|
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | ProjectID | Integer | In | |
| | BranchID | Integer | | |
| | TPID | Integer | | |

UpdateLab

| Visibility: | Public | | | |
|---------------------|---------|---------|------|---------------|
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | Lab | Dataset | In | |

4.4.24 Class: DBTrainee

Super Class: DBBaseClass

Operations

InsertTrainee

| | | | |
|--------------------|-----------------|-----------------|------------|
| Visibility: | Public | | |
| Parameters: | Name Trainee | Type Dataset | Kind In |
| | | | |

GetProjectTrainees

| | | | |
|---------------------|-------------------|-----------------|------------|
| Visibility: | Public | | |
| Return Type: | Dataset | | |
| Parameters: | Name ProjectID | Type Integer | Kind In |
| | | | |

GetLabTrainee

| | | | |
|---------------------|---------------|-----------------|------------|
| Visibility: | Public | | |
| Return Type: | Dataset | | |
| Parameters: | Name LabID | Type Integer | Kind In |
| | | | |

UpdateProject

| | | | |
|--------------------|-----------------|-----------------|------------|
| Visibility: | Public | | |
| Parameters: | Name Project | Type Dataset | Kind In |
| | | | |

4.4.25 Class: DBTrainingProject

Super Class: DBBaseClass

Operations

InsertProject

| | | | |
|--------------------|-------------------------|-----------------|------------|
| Visibility: | Public | | |
| Parameters: | Name TrainingProject | Type Dataset | Kind In |
| | | | |

GetProjectInfo

| | | | |
|---------------------|-------------------|-----------------|------------|
| Visibility: | Public | | |
| Return Type: | Dataset | | |
| Parameters: | Name ProjectID | Type Integer | Kind In |
| | | | |
| | | | |

UpdateProject

| Visibility: | Public | | | |
|-------------|---------|---------|------|---------------|
| Parameters: | Name | Type | Kind | Default Value |
| | Project | Dataset | In | |

4.4.26 Class: DBUser

Super Class: DBBaseClass

Operations

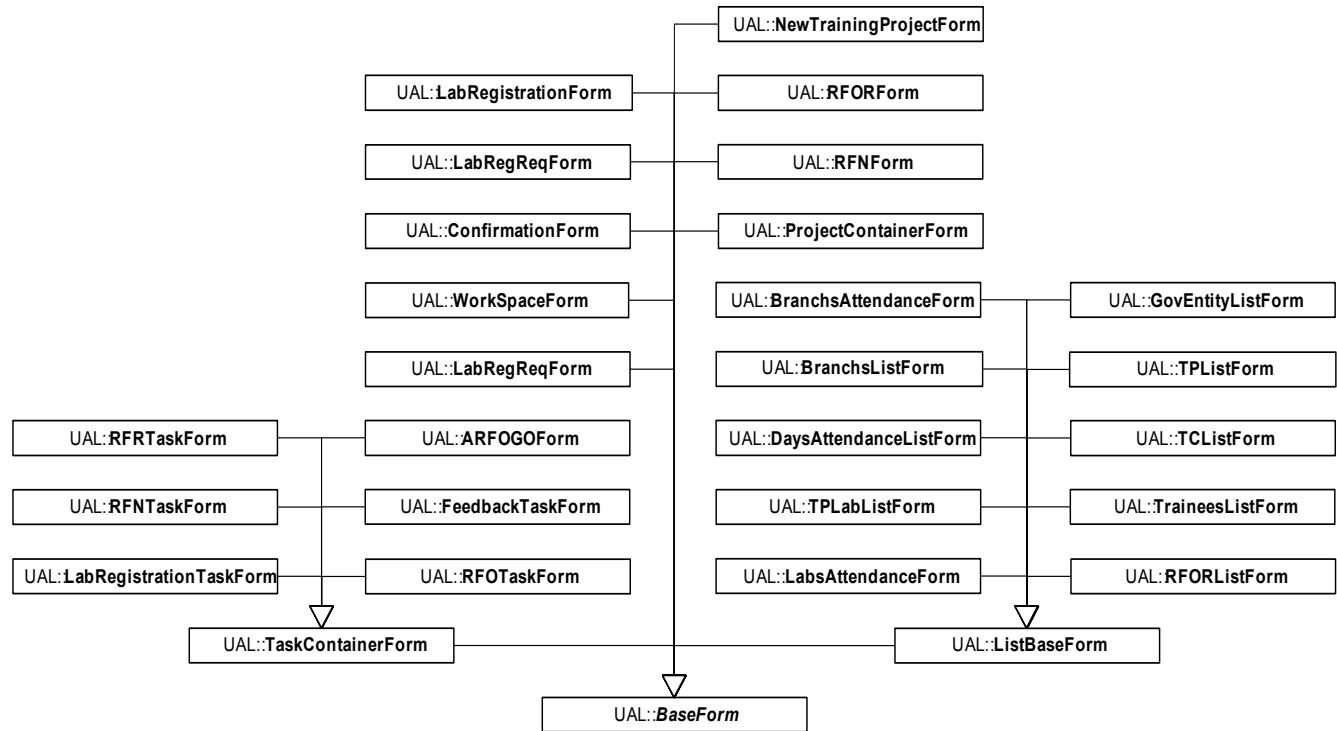
GetUserInfo

| Visibility: | Public | | | |
|--------------|----------|--------|------|---------------|
| Return Type: | Dataset | | | |
| Parameters: | Name | Type | Kind | Default Value |
| | UserName | String | In | |

4.5 User Access Layer

The User Access Layer is presented by Web Application that provides the user with needed interface to access the system. It extracts information from Business Rules Layer via the Web Services that acts a skin for the system. These Web Services provide information in XML documents that can be useful for any planned interface with the TMS system.

4.5.1 User Access Layer Class Diagram



4.5.2 Class: ARFOGOForm

Description

This class represents the ARFO Go Task form.

Super Class: TaskContainerForm

Operations

`FillAttendance_Click`

4.5.3 Class: BaseForm

Description

This class is the base class for all User Access Layer classes.

Operations

OpenForm

4.5.4 Class: BranchsAttendanceForm**Description**

This class represents the Branch Attendance Form which lists all Branches for TP that are giving training within a Training Project.

Super Class: ListBaseForm

Operations

SelectBranch

4.5.5 Class: BranchsListForm**Description**

This class represents the form that lists all branches for certain TP that registered in the system.

Super Class: ListBaseForm

Operations

SelectBranch

4.5.6 Class: ConfirmationForm**Description**

This class represent the confirmation form that displayed to the user after certain action to be confirmed that it has been done.

Super Class: BaseForm

Operations

Done_Click

4.5.7 Class: DaysAttendanceListForm**Description**

This class list all Attendance Days for certain Lab, Branch and Training Project.

Super Class: ListBaseForm**Operations**

- CreateNewDay**
- SelectDay**
- CloseLab**

4.5.8 Class: FeedbackTaskForm**Description**

This class represents the form of Feedback Task which will be filled by Trainees after finishing the Training.

Super Class: TaskContainerForm**4.5.9 Class: GovEntityListForm****Description**

This class lists all Gov Entities.

Super Class: ListBaseForm**Operations**

- GovEntity_Click**
- ApproveNominees_Click**

4.5.10 Class: LabRegistrationForm**Description**

This class is used to add Lab Registration by the TP for certain Training Project.

Super Class: BaseForm**Operations**

- SelectBranch**
- AddLab**

4.5.11 Class: LabRegistrationTaskForm**Description**

This class represents the Lab Registration Task form which will be opened by the TP.

Super Class: TaskContainerForm**Operations**

AddLab_Click

4.5.12 Class: LabRegReqForm**Description**

This class is opened by the PMU to send a Lab Registration Request to the TPs.

Super Class: BaseForm**Operations**

Submit

4.5.13 Class: LabsAttendanceForm**Description**

This class lists all Labs that registered for TP in a Training Project to be able to fill the attendance for that Lab.

Super Class: BaseForm**Operations**

SelectLab

4.5.14 Class: ListBaseForm**Description**

This class represents the base class for forms that have list behaviour.

Super Class: BaseForm**4.5.15 Class: NewTrainingProjectForm****Description**

This class enables the PMU to create a new Training Project within a existing program.

Super Class: BaseForm

Operations

SubmitForm**SubmitButton_Click**

4.5.16 Class: ProjectContainerForm

Description

This class represents the form that contains all the information for the projects.

Super Class: BaseForm

Operations

RFOR_Click**SendLab_RegistrationRequest****SendRFN_Click****Nominees_Click****RequestForRegistration_Click****ARFO_Co_Click**

4.5.17 Class: RFNForm

Description

This class represents the form of RFN which enables the PMU to send a RFN Task for TCs.

Super Class: BaseForm

Operations

Submit

4.5.18 Class: RFNTaskForm

Description

This class represents the form that contains the RFN Task which is opened by TCs.

Super Class: TaskContainerForm

Operations

AddNominees

4.5.19 Class: RFORForm**Description**

This class represents the form that contains information about certain RFOR and enables the PMU to Approve or Reject the RFOR.

Super Class: BaseForm**Operations**

RejectRFOR
ApproveRFOR

4.5.20 Class: RFORListForm**Description**

This class lists all RFORs for certain Training Project.

Super Class: ListBaseForm**Operations**

RFOR_Click

4.5.21 Class: RFOTaskForm**Description**

This class represents the form that contains RFO Task for TPs.

Super Class: TaskContainerForm**Operations**

RejectTask
SubmitTask

4.5.22 Class: RFRTaskForm**Description**

This class represents the form that contains the RFR Task for the TCs.

Super Class: TaskContainerForm**Operations**

NomineeRegister_Click

4.5.23 Class: TaskContainerForm**Description**

This class is the base class for Tasks Forms.

Super Class: BaseForm**Operations**

SubmitTask_Click

4.5.24 Class: TCListForm**Description**

This class represents the form that list all TCs registered in the system.

Super Class: ListBaseForm**Operations**

SelectTC_Click

AddTCsToProject_Click

SendRFN_Click

4.5.25 Class: TPLabListForm**Description**

This class represents the form that list all Labs for certain TP registered for Training Project.

Super Class: ListBaseForm**Operations**

SelectLab

4.5.26 Class: TPListForm**Description**

This class represents the form that list all TPs that match the selected courses within the Training Project and enables the PMU to select a group of them to send a RFO Task to them.

Super Class: ListBaseForm**Operations****SelectTPs**
SendRFO**4.5.27 Class: TraineesListForm****Description**

This class lists the Trainees for certain Lab and enables the TP to enter their Attendance/Absence within certain Attendance Day.

Super Class: ListBaseForm**Operations****TraineeAttend**
TraineeAbsence**4.5.28 Class: WorkSpaceForm****Description**

This class represents the form that contains all the items within certain user workspace and it's the first form that is displayed for the user after he login to the system.

Super Class: BaseForm**Operations****CreateTrainingProject**
Logout
Task_Click
Project_Click

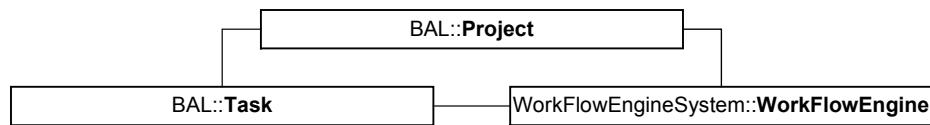
4.6 WorkFlowEngine

Description

WorkFlowEngine is a sub system that working in the background to track the active task and check for any due task and accordingly change the projects' status in periodical manner. It will be implemented as a thread and packaged as windows service.

It consists of WorkFlowEngine Class which is a control class that accesses the Project and Task classes in the Business Rules Layer and changes them according to the definitions.

4.6.1 WorkFlowEngine Class Diagram



4.6.2 Class: WorkFlowEngine

Description

This is a control class that responsible of tracking projects and their tasks and updates them according to the current situation.

Operations

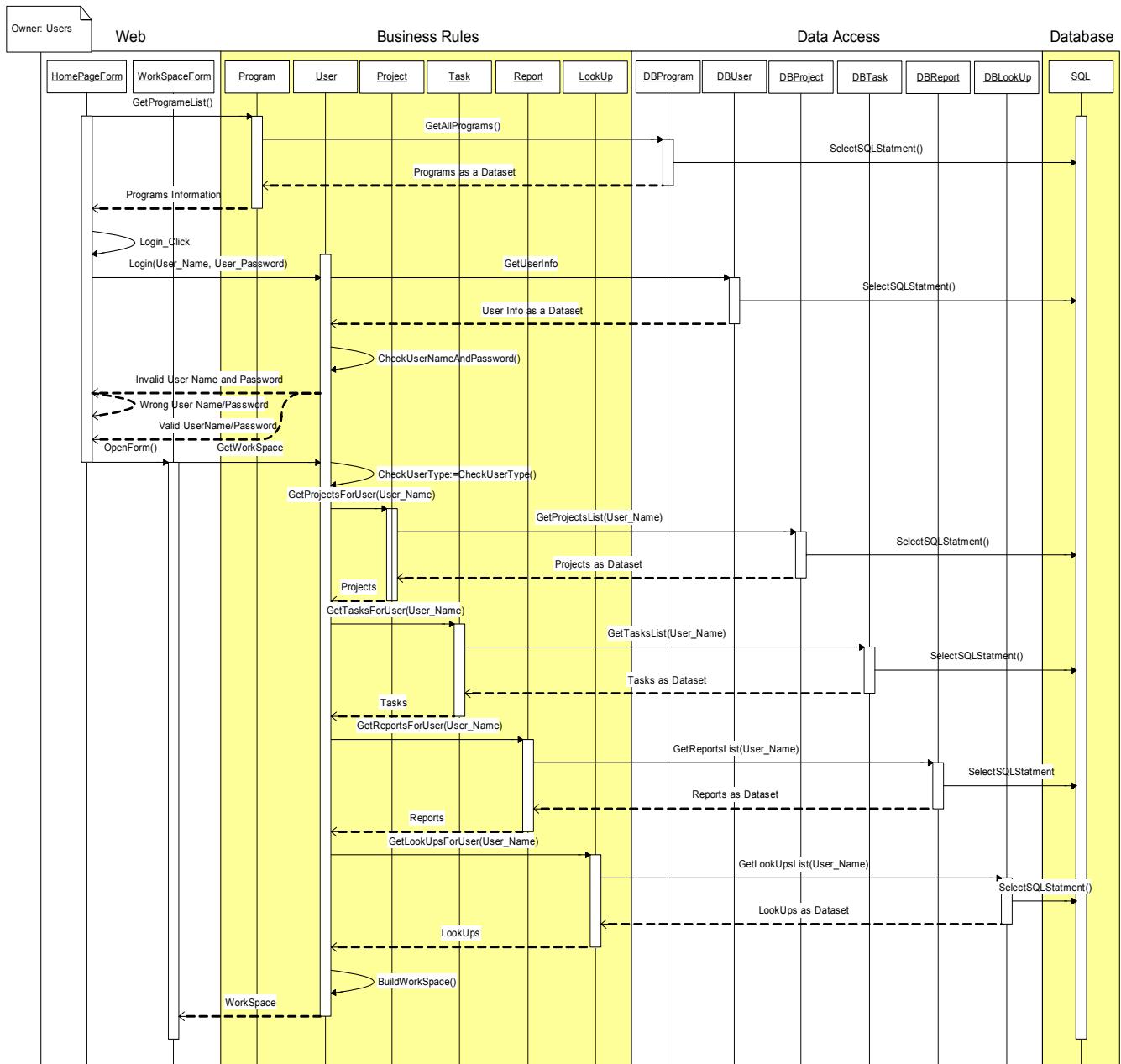
CallEngine

This is the Thread method that will be called in periodical manner and it will check the system for any due task and update the projects accordingly.

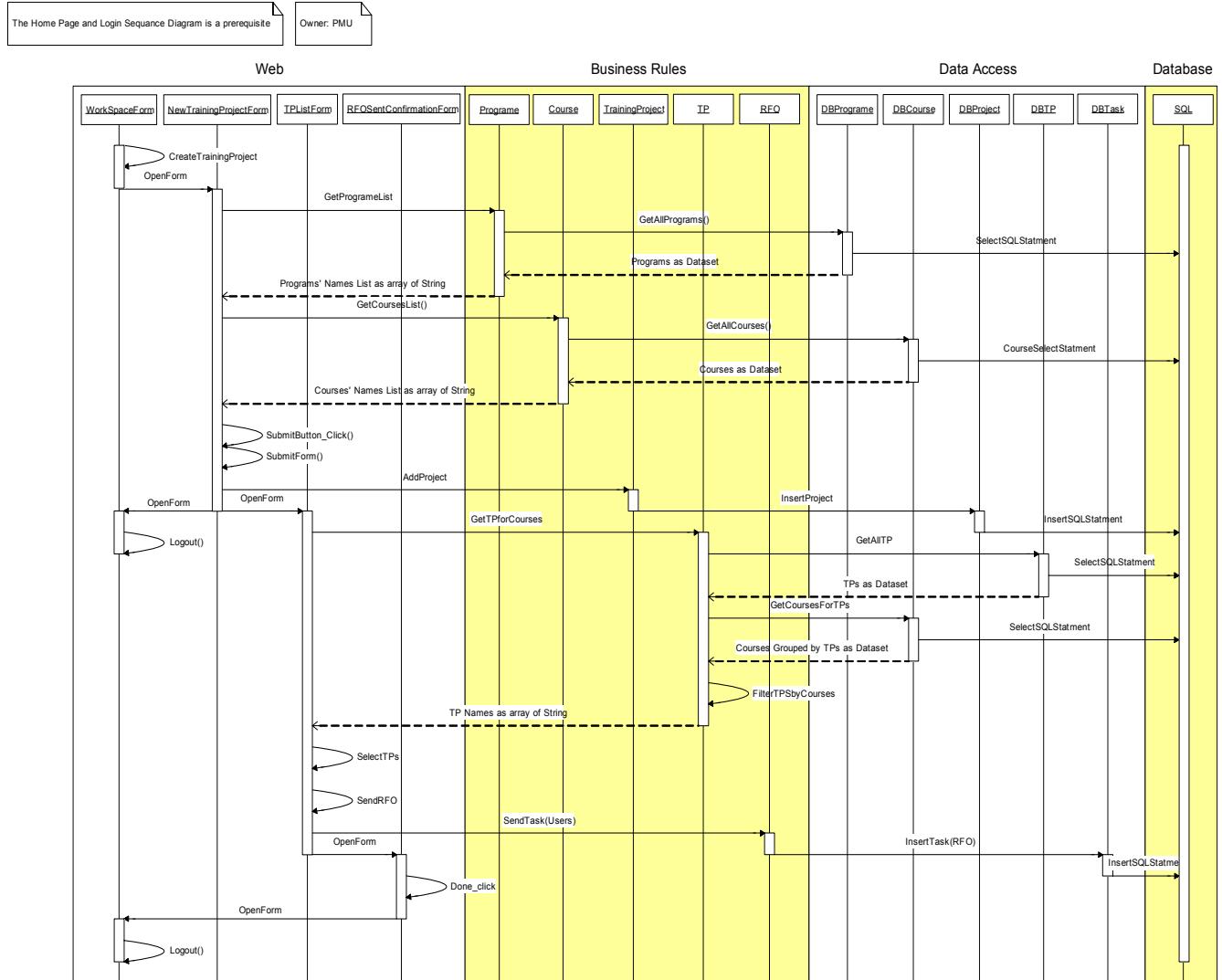
| | |
|-------------|--------|
| Visibility: | Public |
|-------------|--------|

5 Sequence Diagrams

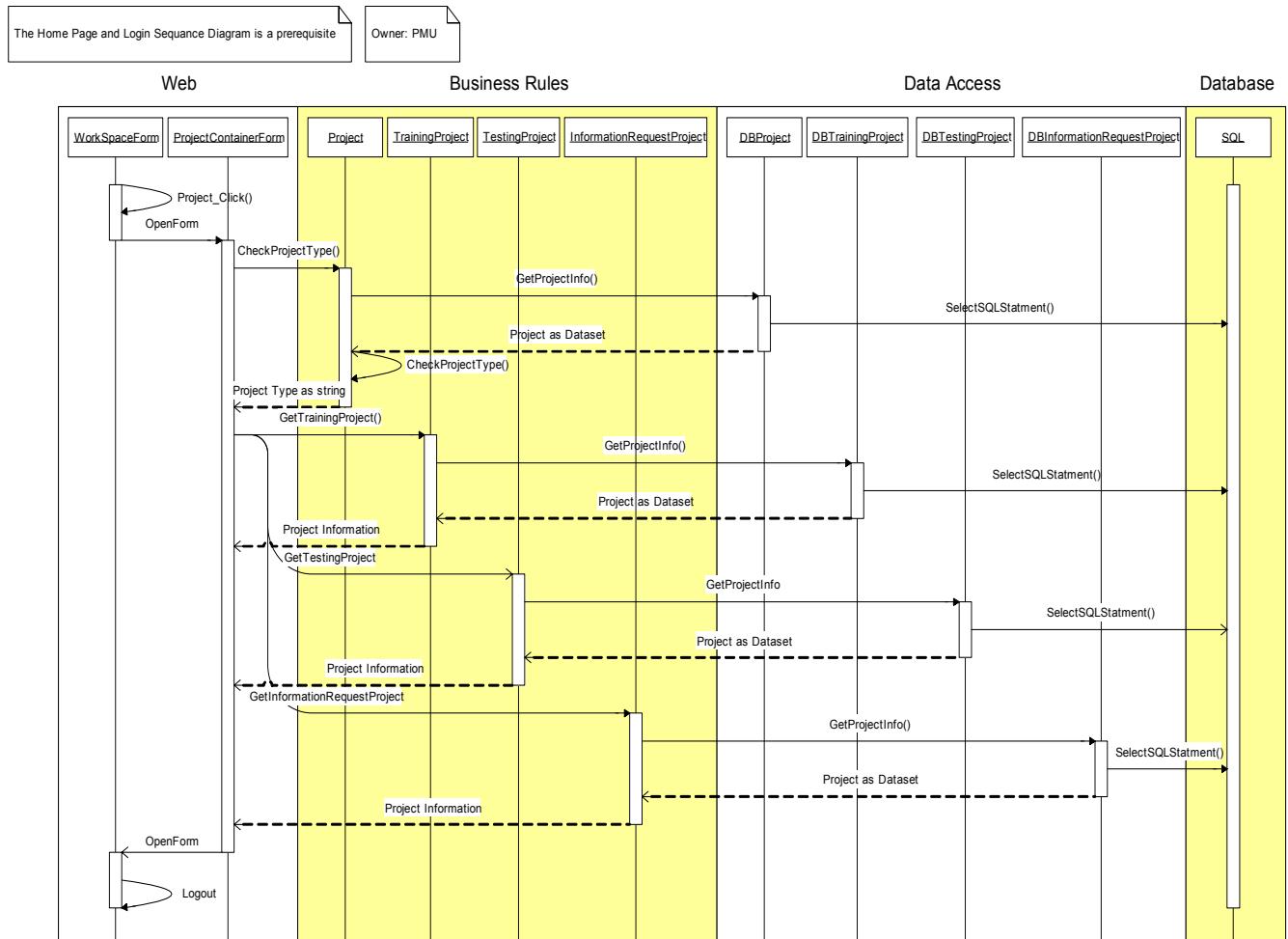
5.1 Sequence Diagram: Home Page and Login



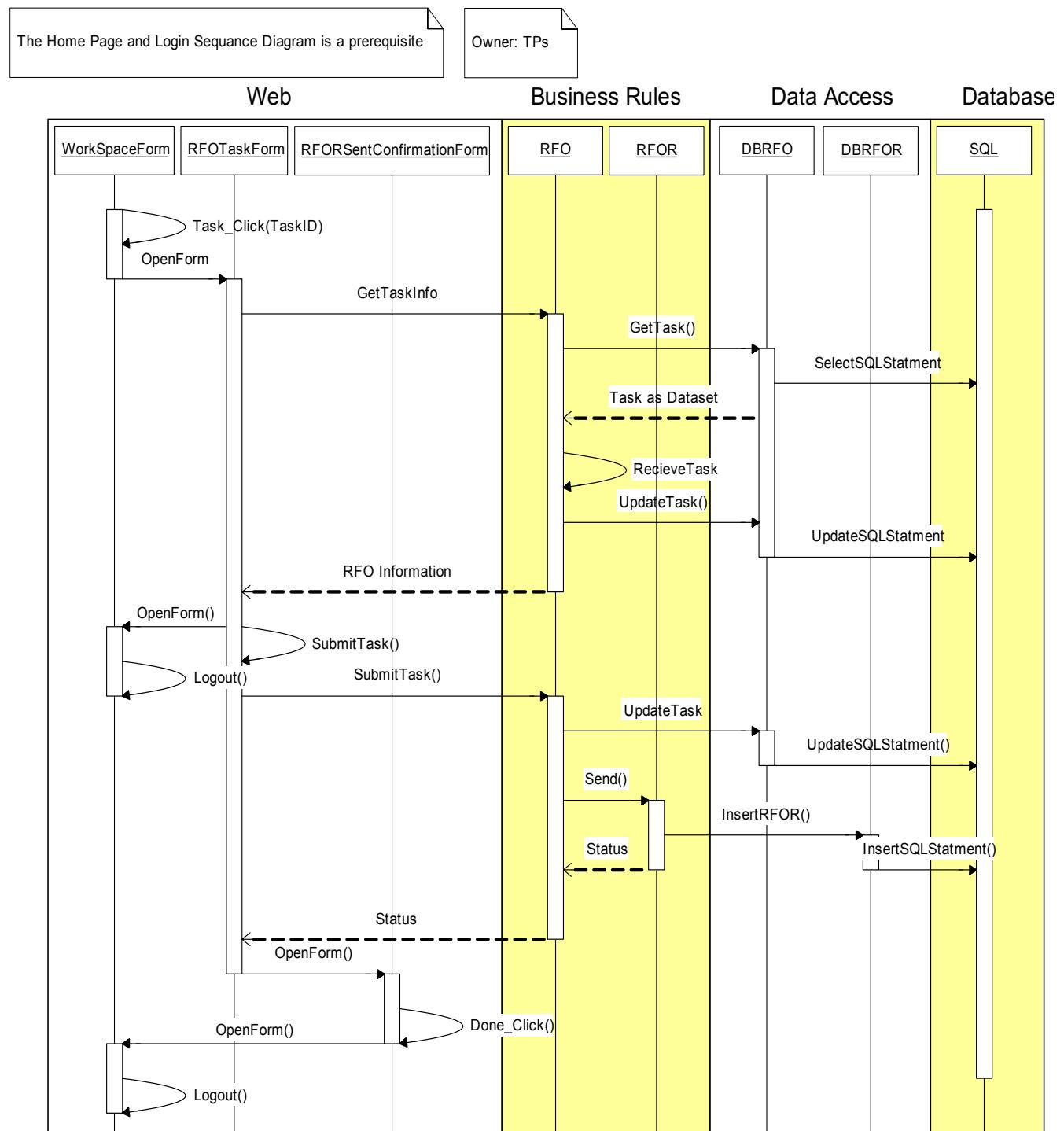
5.2 Sequence Diagram: Create Training Project & RFO



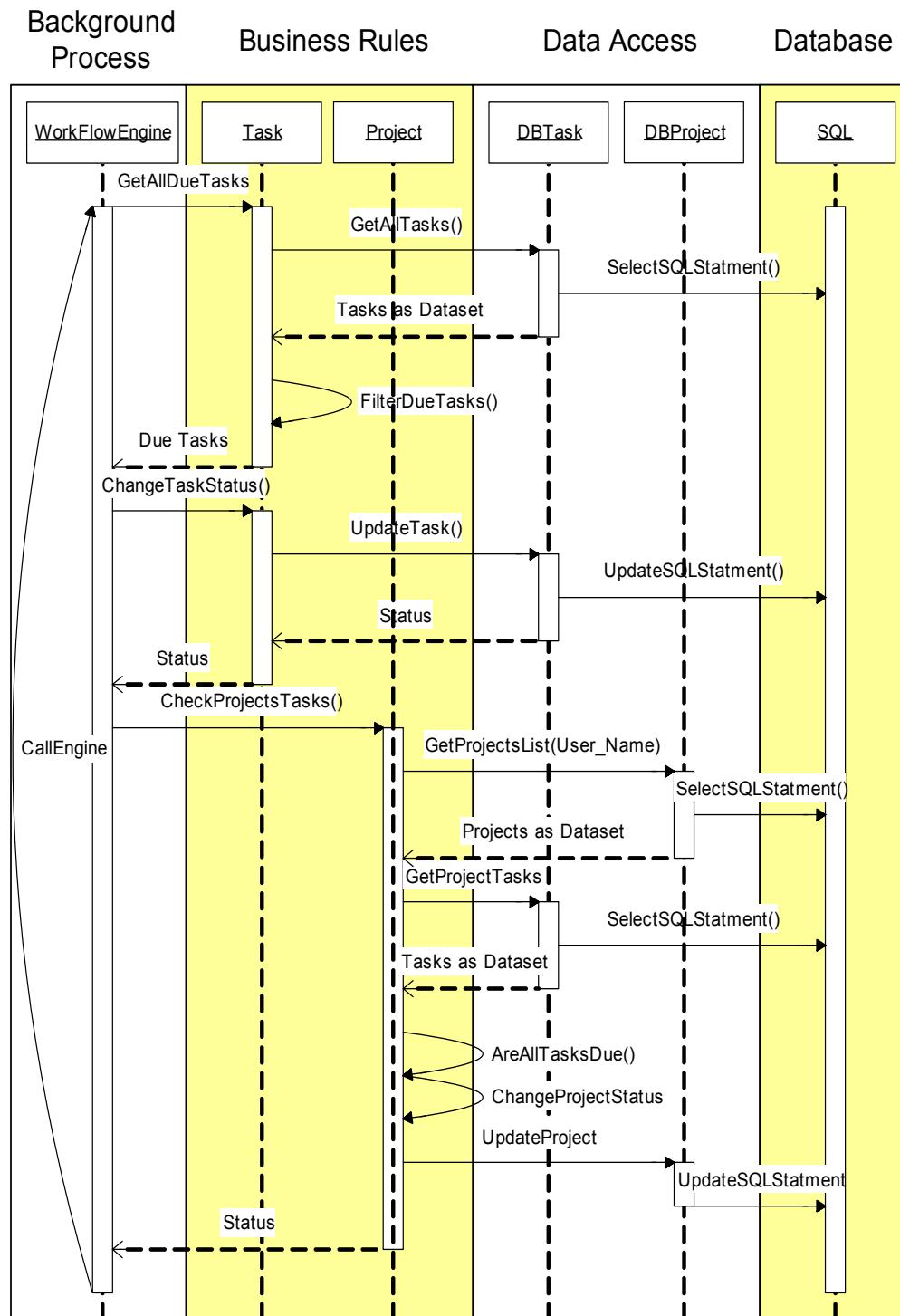
5.3 Sequence Diagram: Open Project



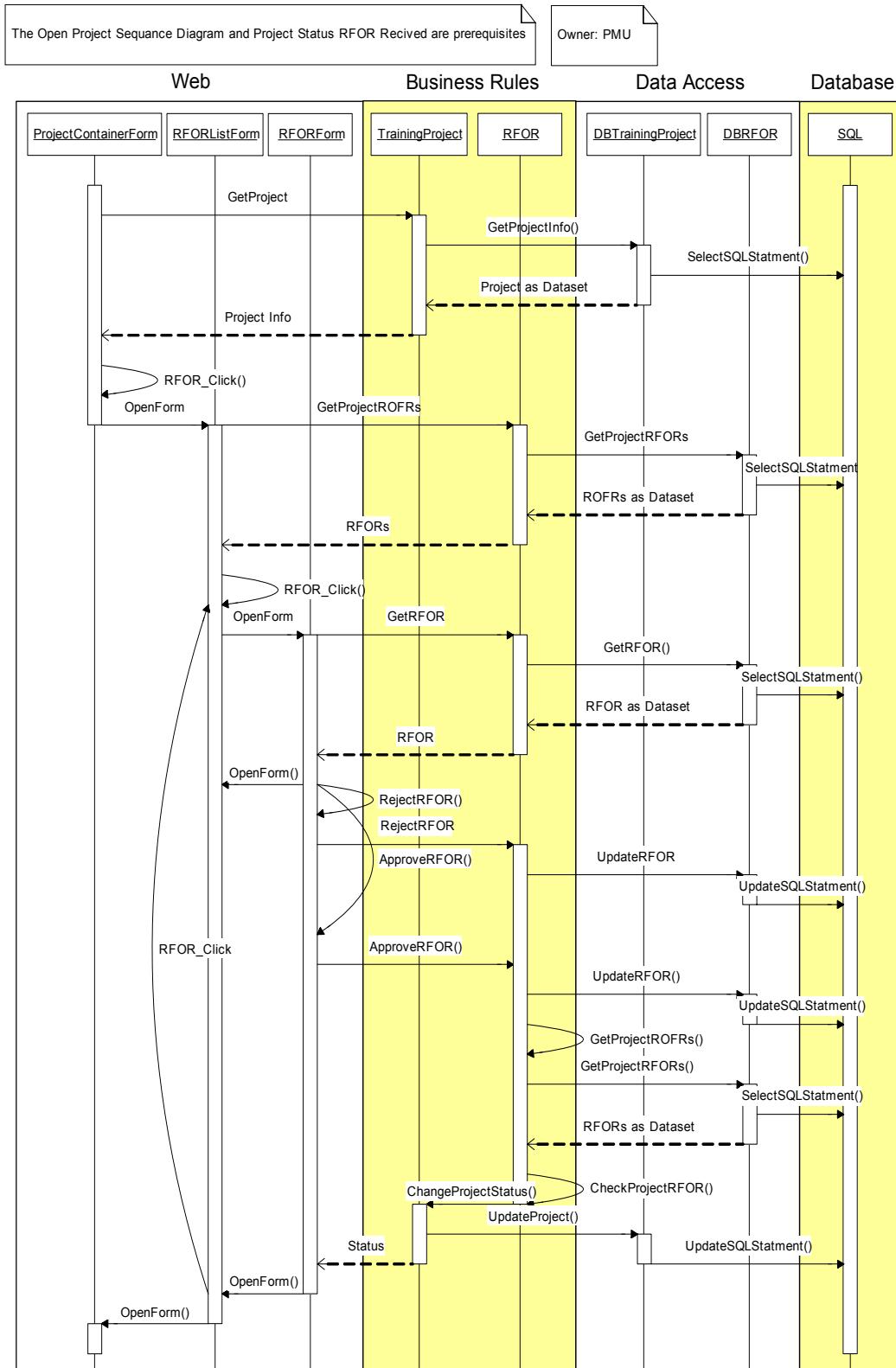
5.4 Sequence Diagram: Open, Receive RFO and Submit RFOR



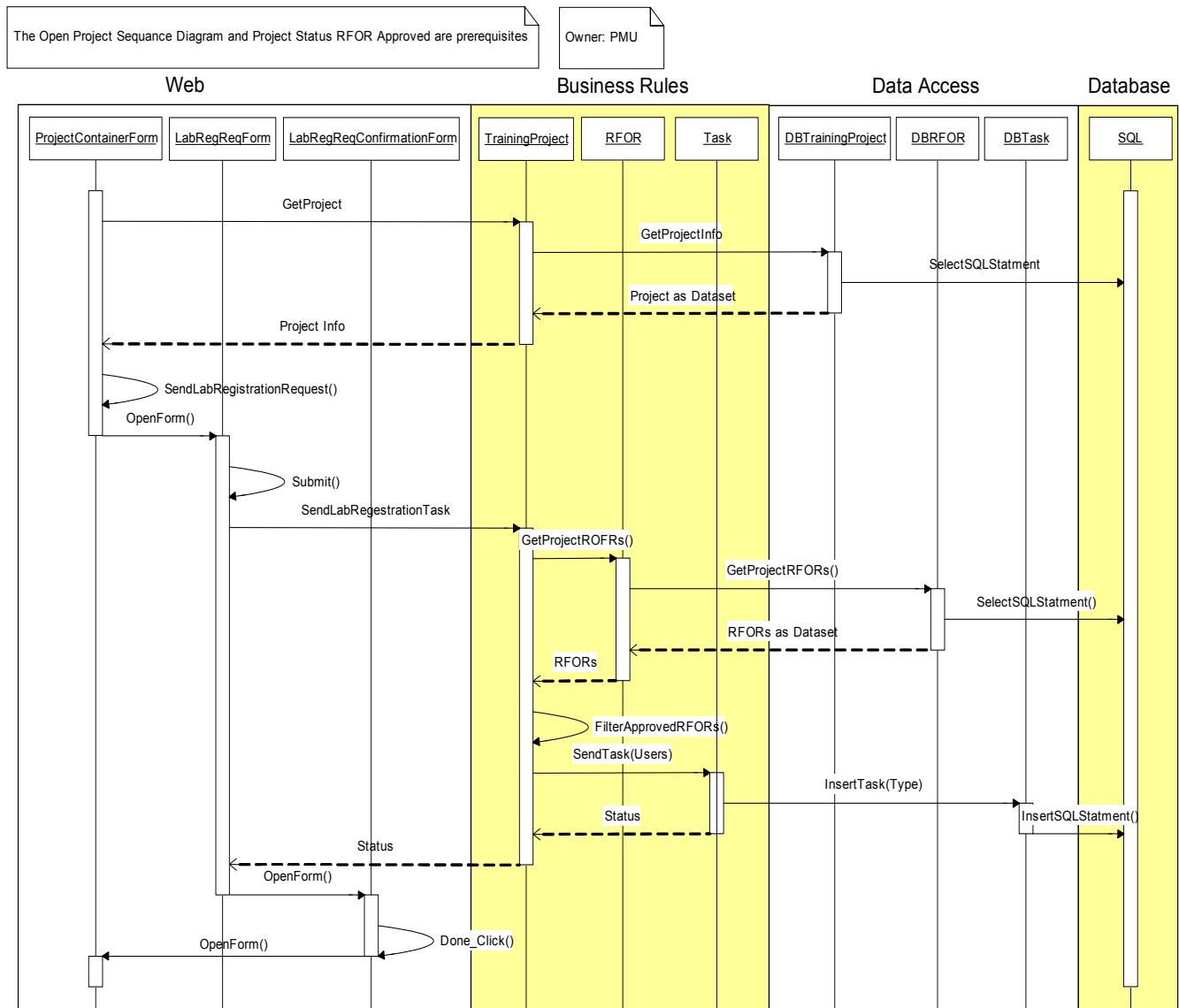
5.5 Sequence Diagram: Workflow Engine Thread



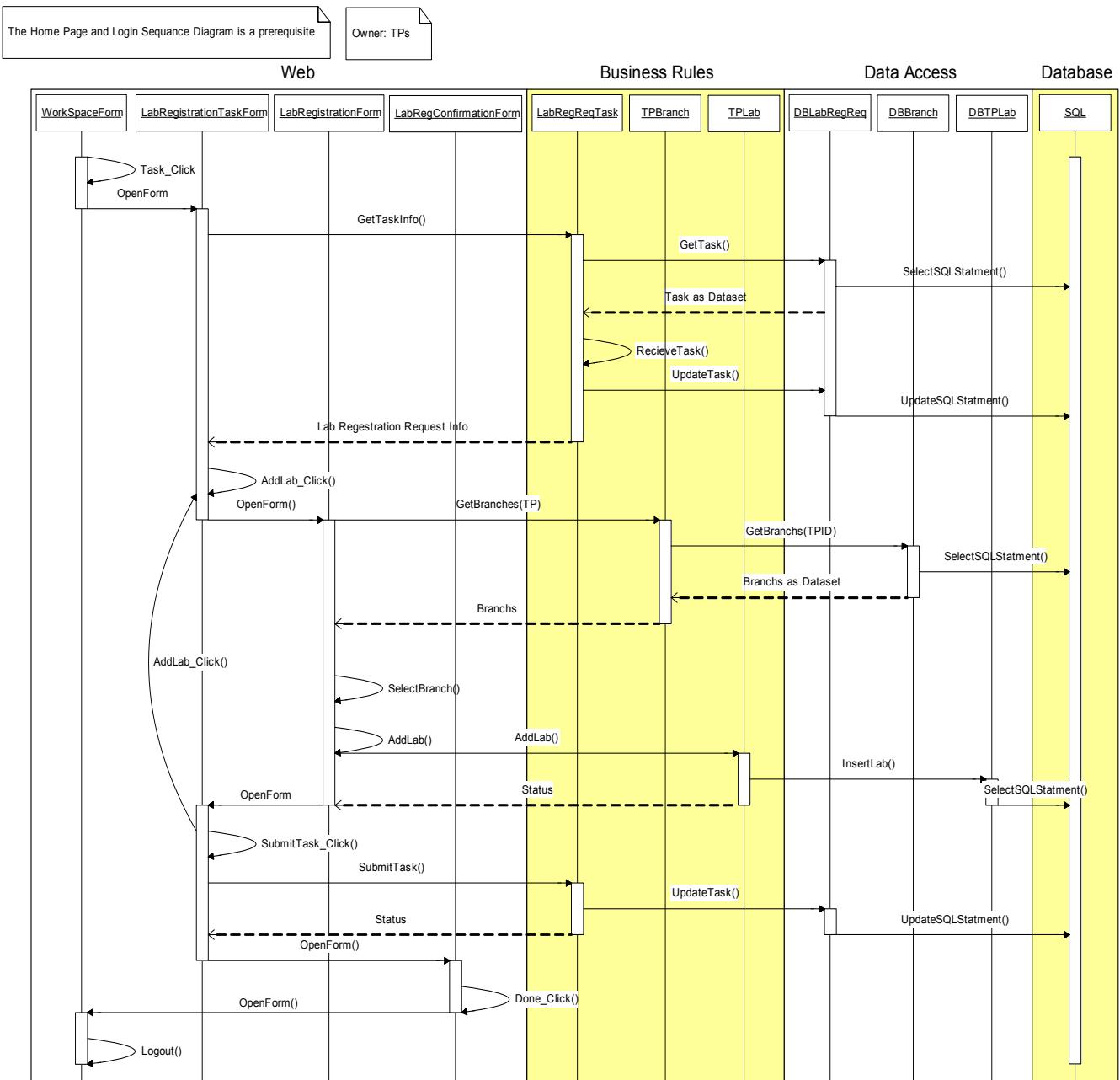
5.6 Sequence Diagram: Approve RFOR



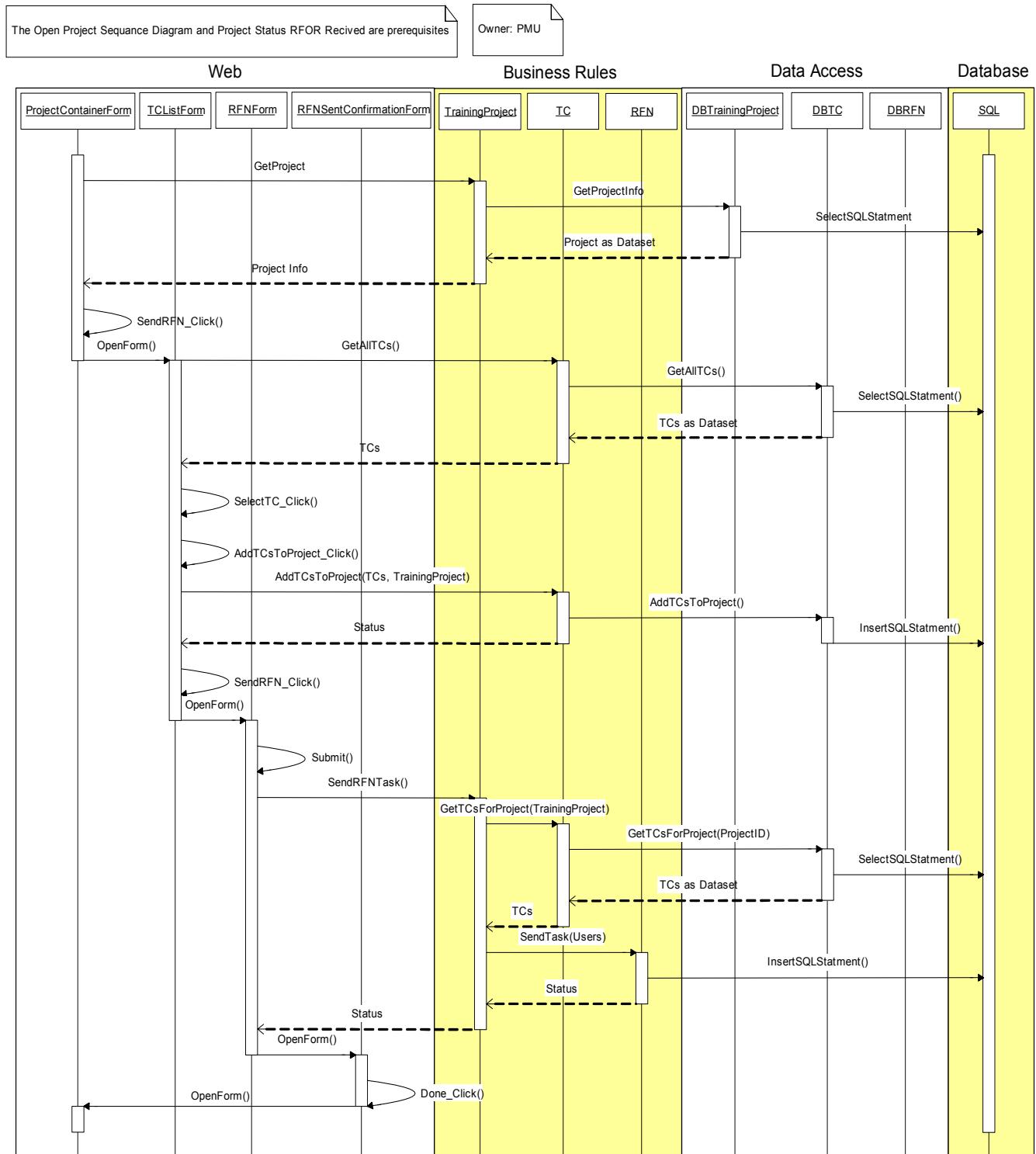
5.7 Sequence Diagram: Lab Registration Task Send



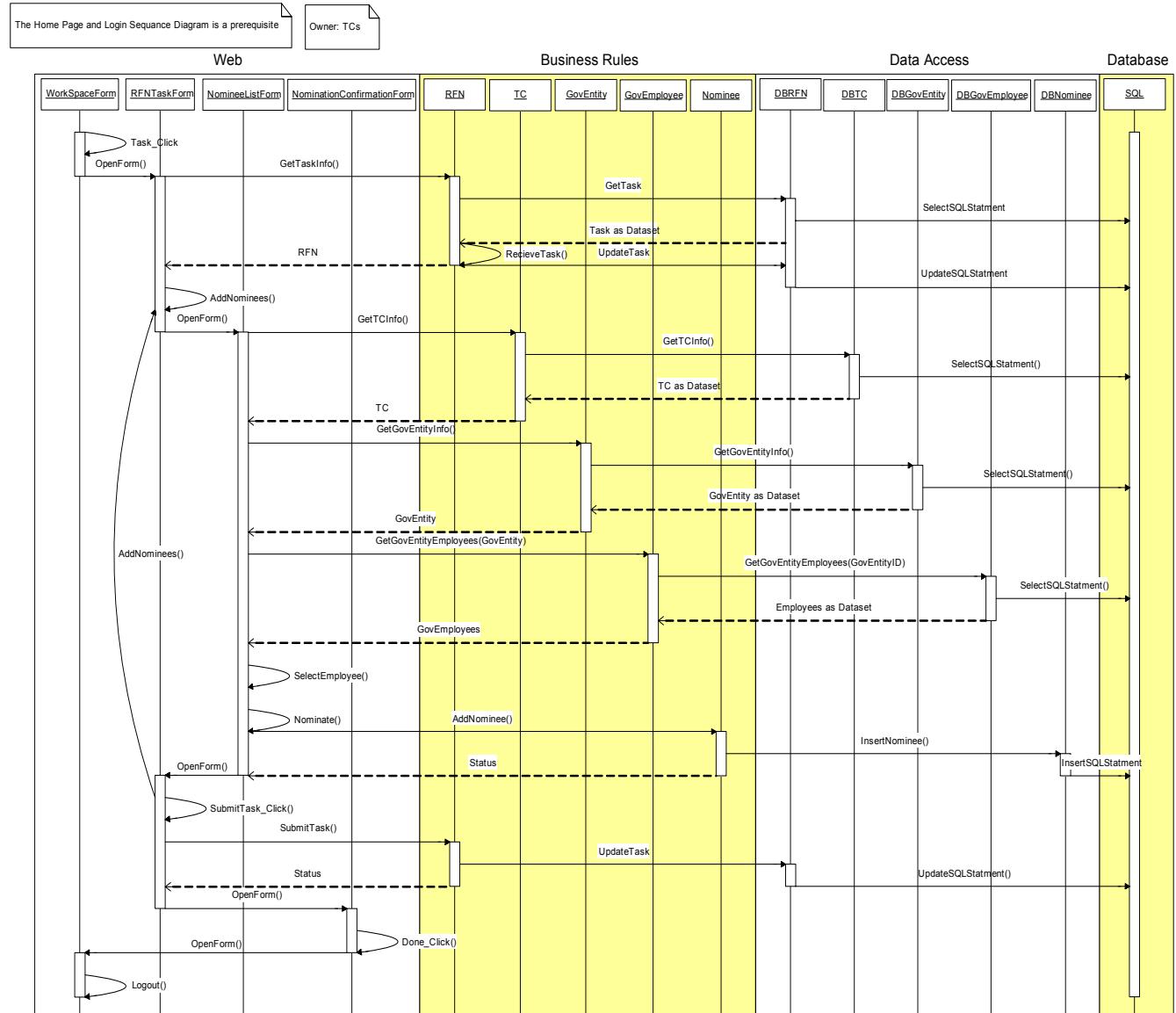
5.8 Sequence Diagram: Lab Registration Task



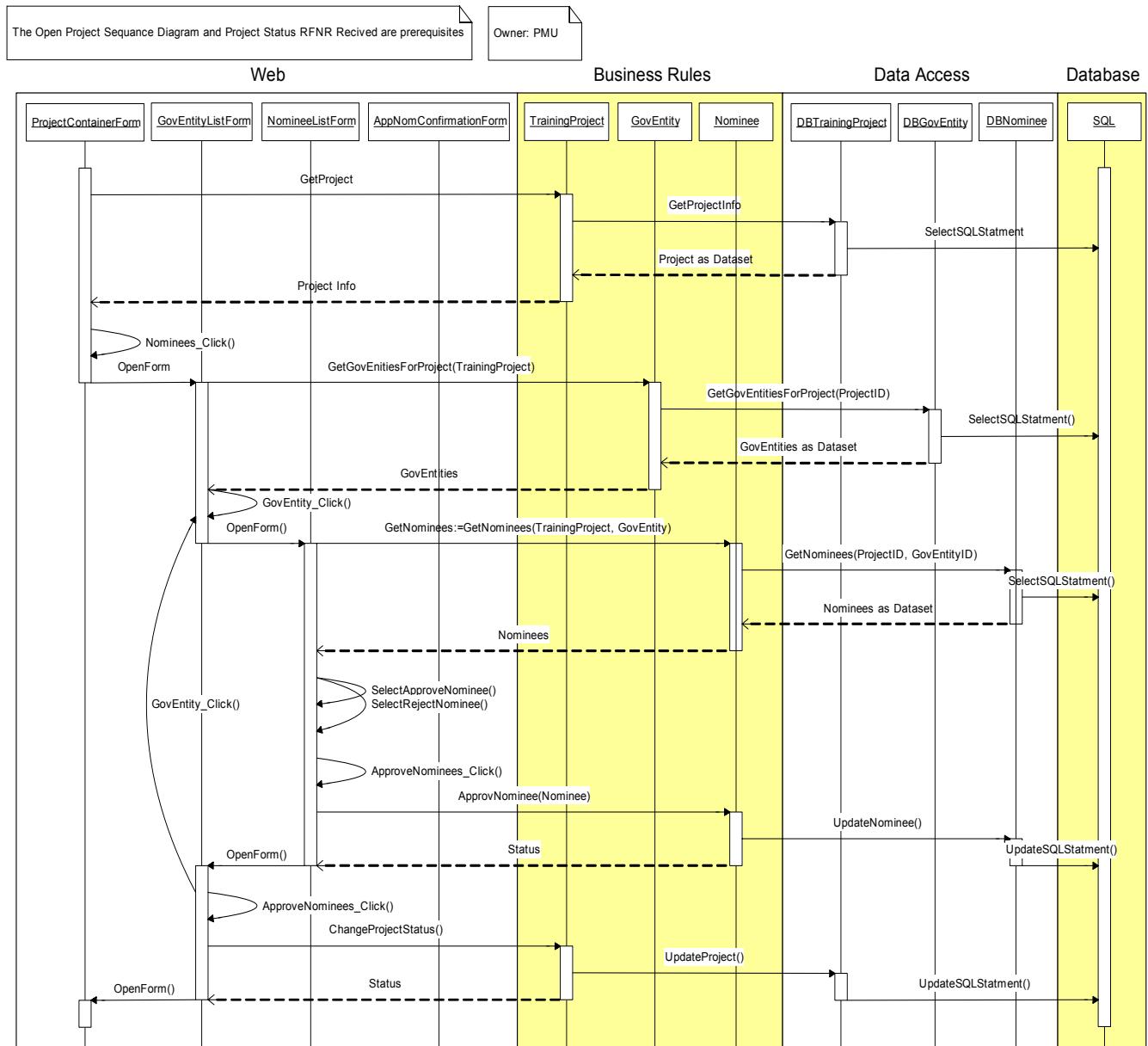
5.9 Sequence Diagram: RFN Task Send



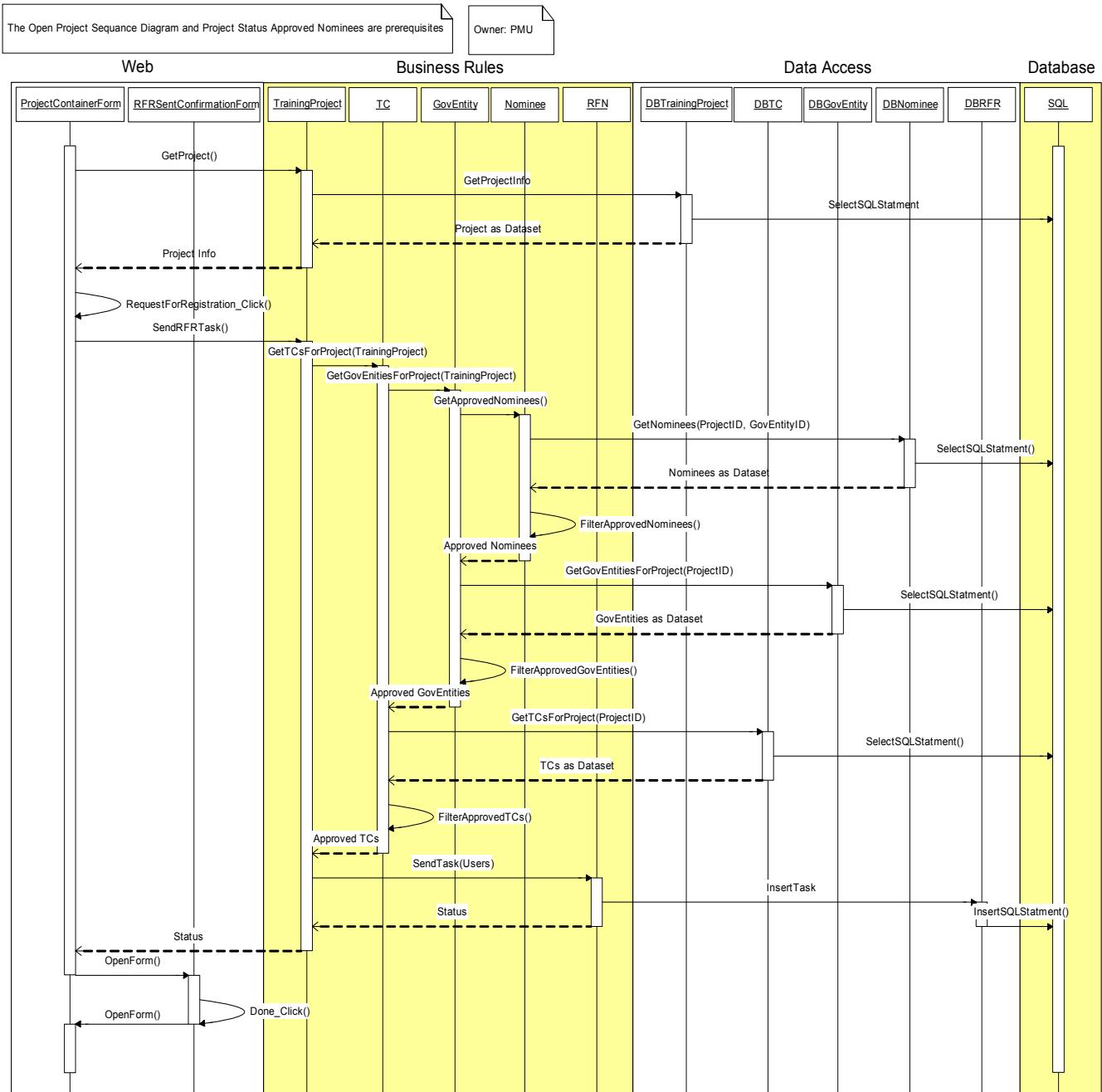
5.10 Sequence Diagram: RFNR Task



5.11 Sequence Diagram: Approve/Reject Nominations



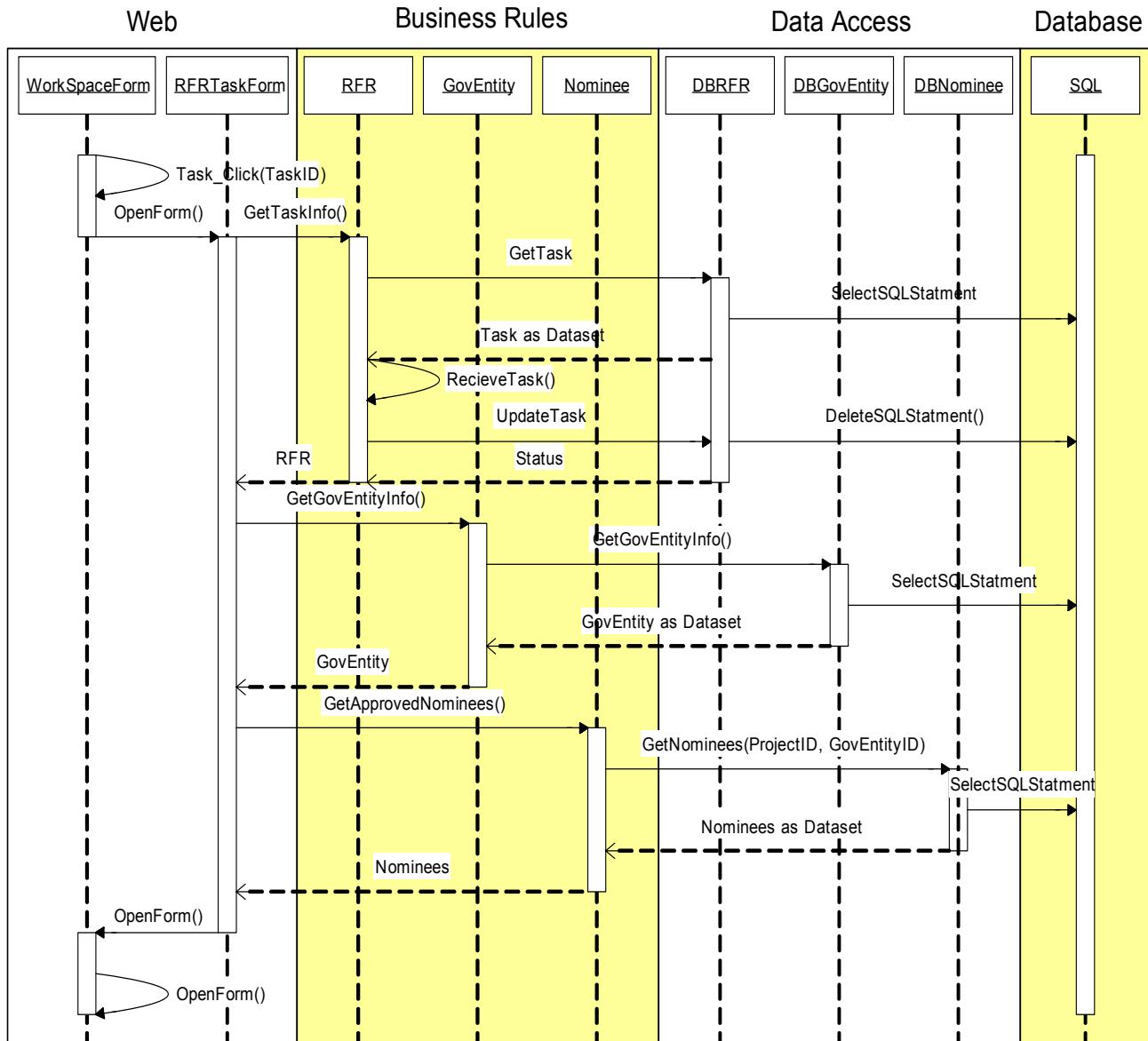
5.12 Sequence Diagram: Request for Registration



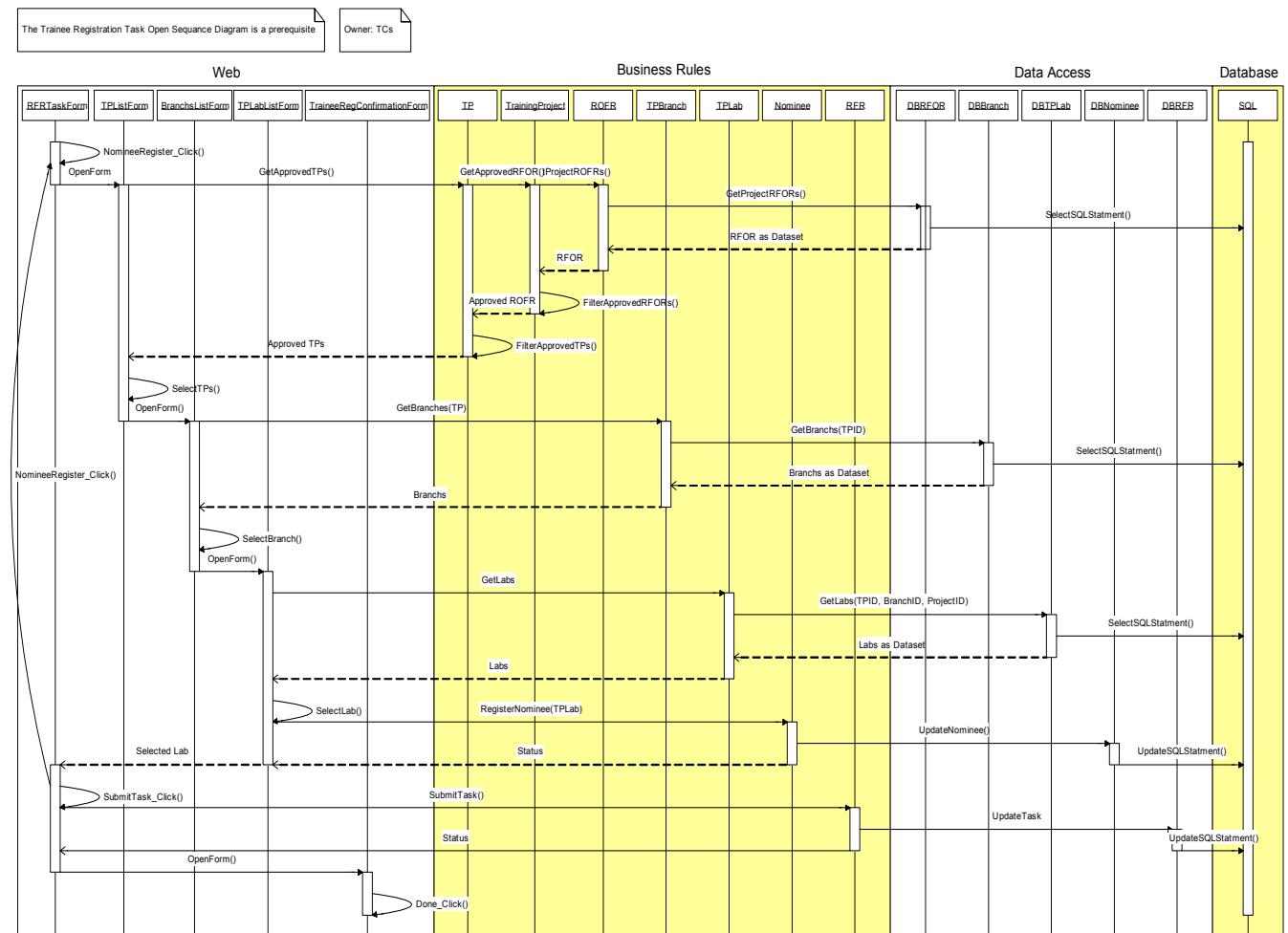
5.13 Sequence Diagram: Trainee Registration Task Open

The Home Page and Login Sequence Diagram is a prerequisite

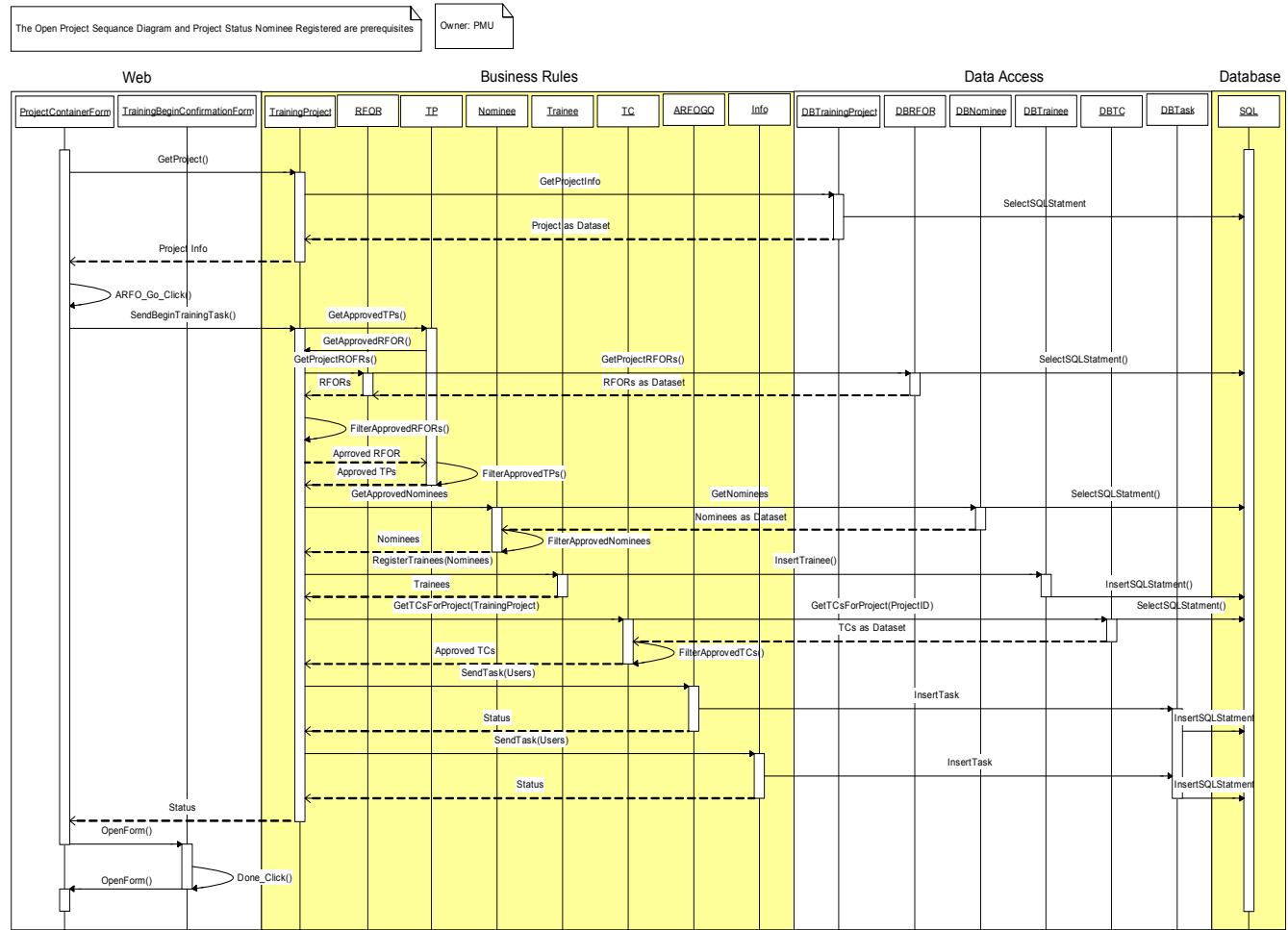
Owner: TCs



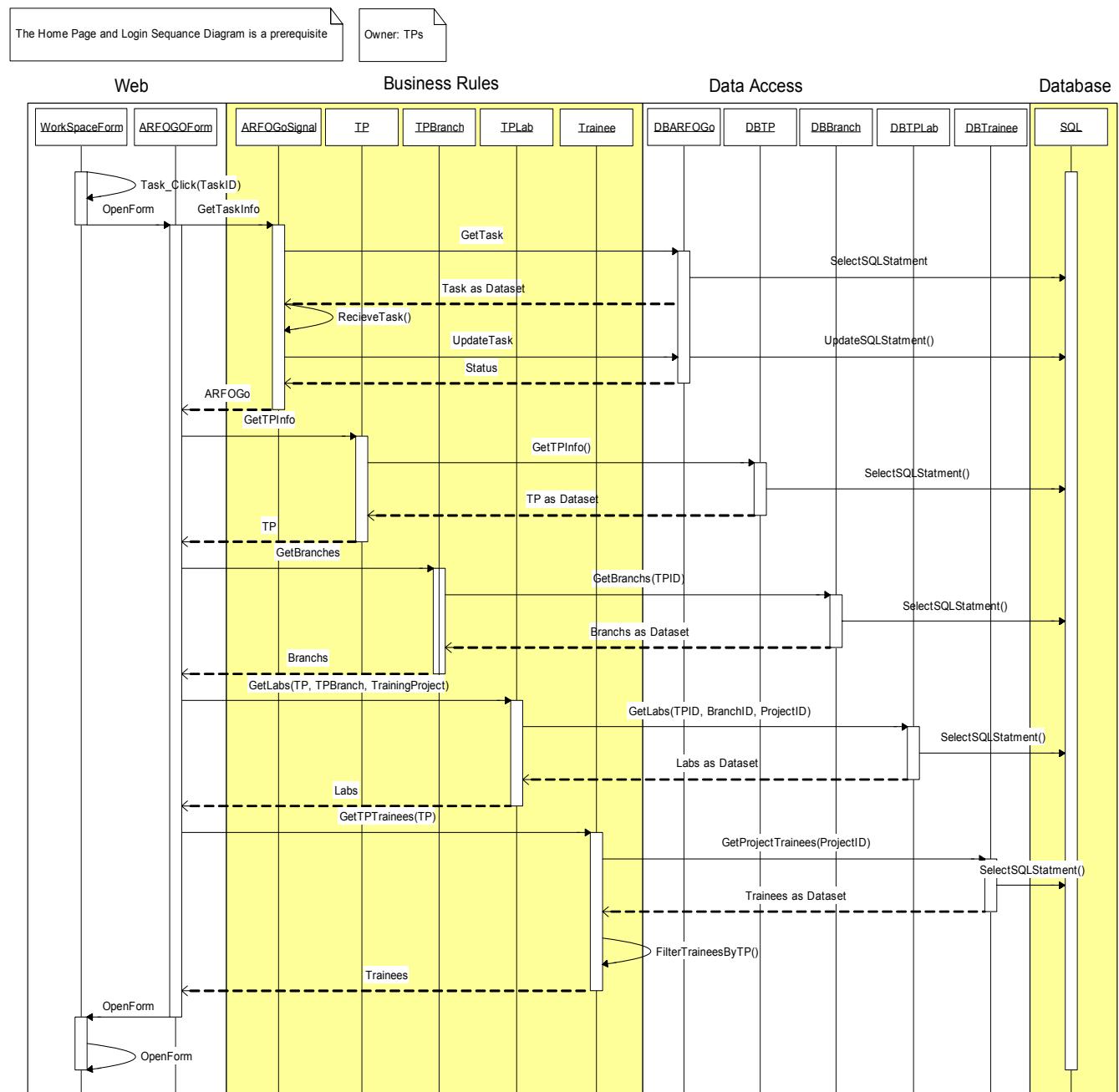
5.14 Sequence Diagram: Trainee Registration Task



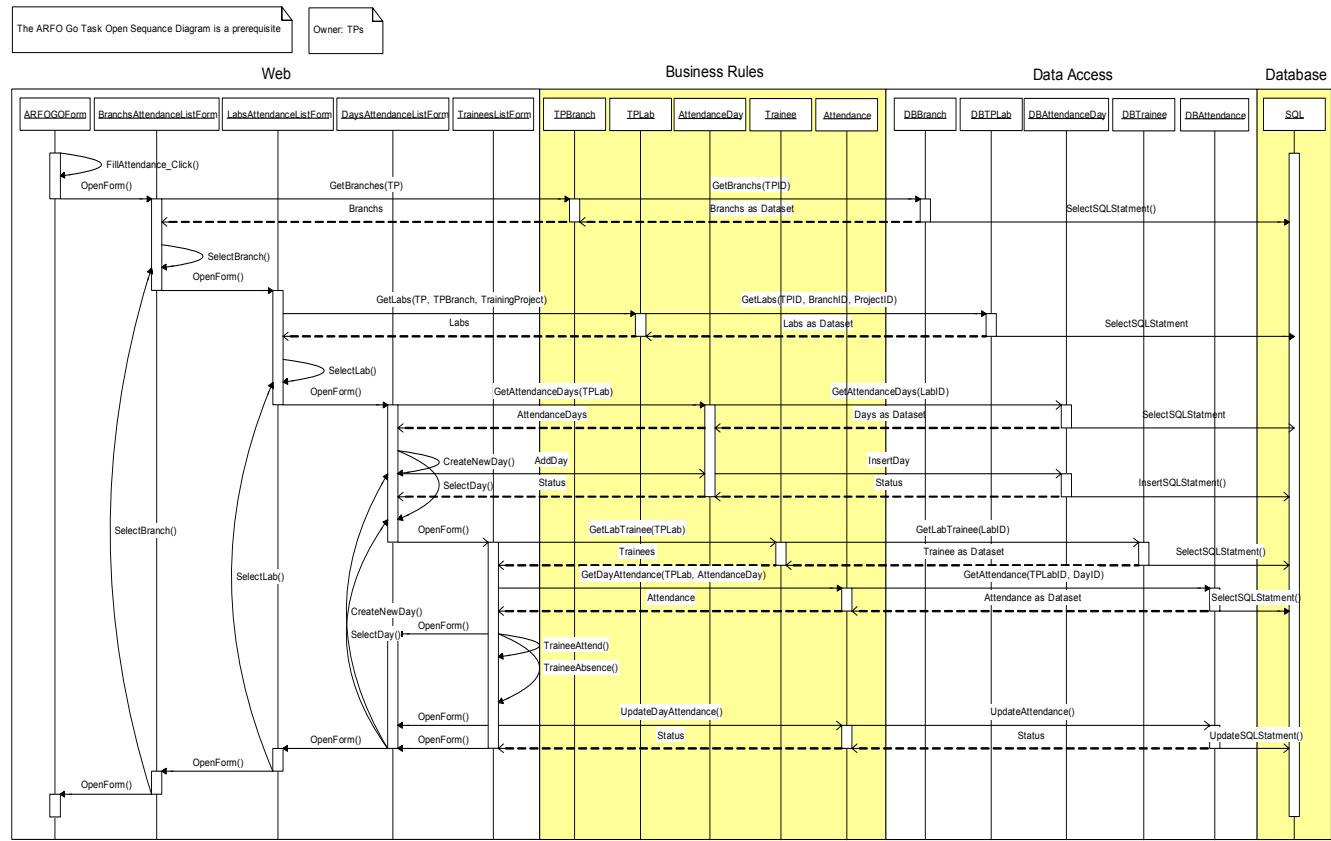
5.15 Sequence Diagram: ARFO Go Task Send



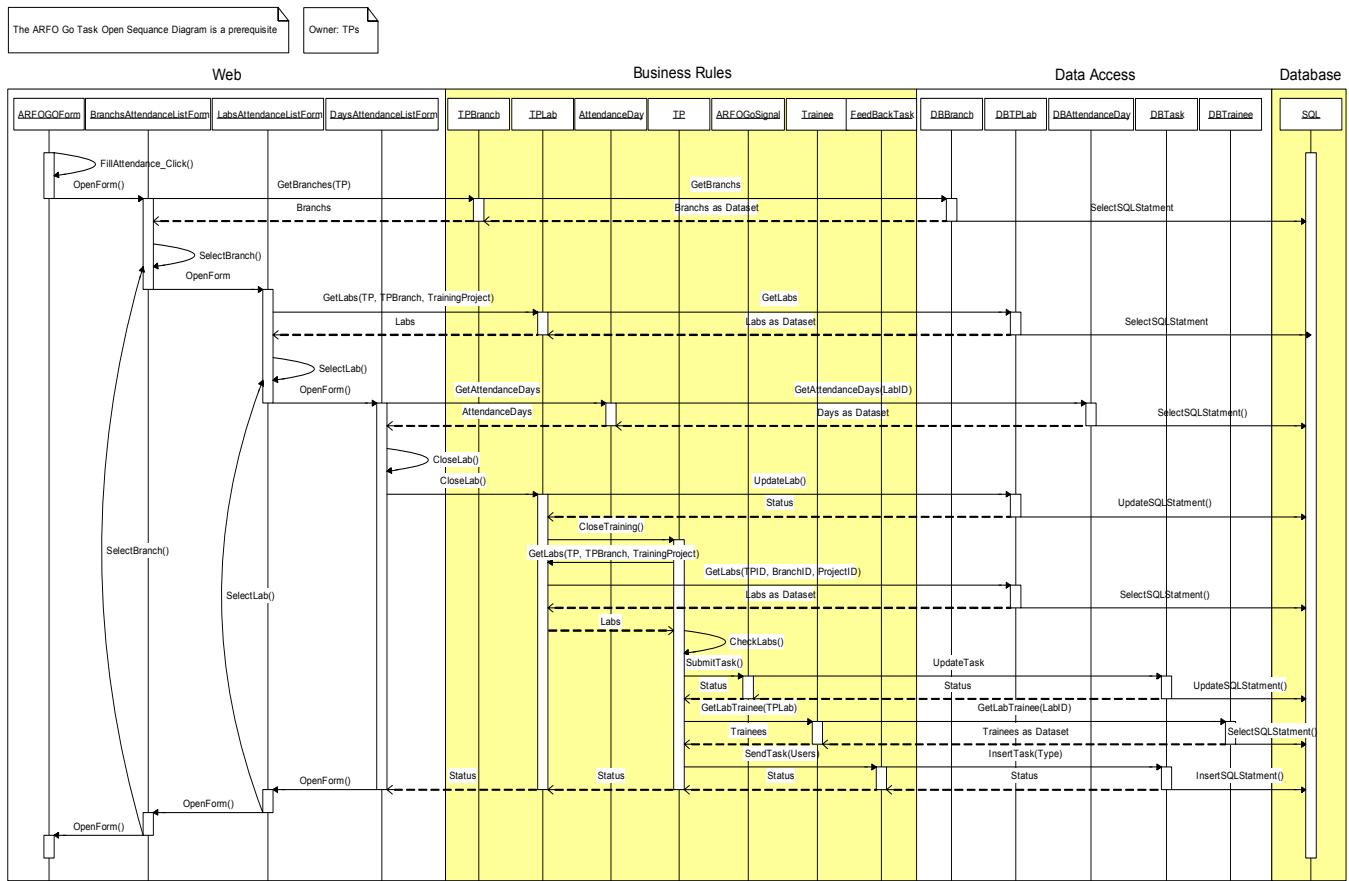
5.16 Sequence Diagram: ARFO Go Task Open



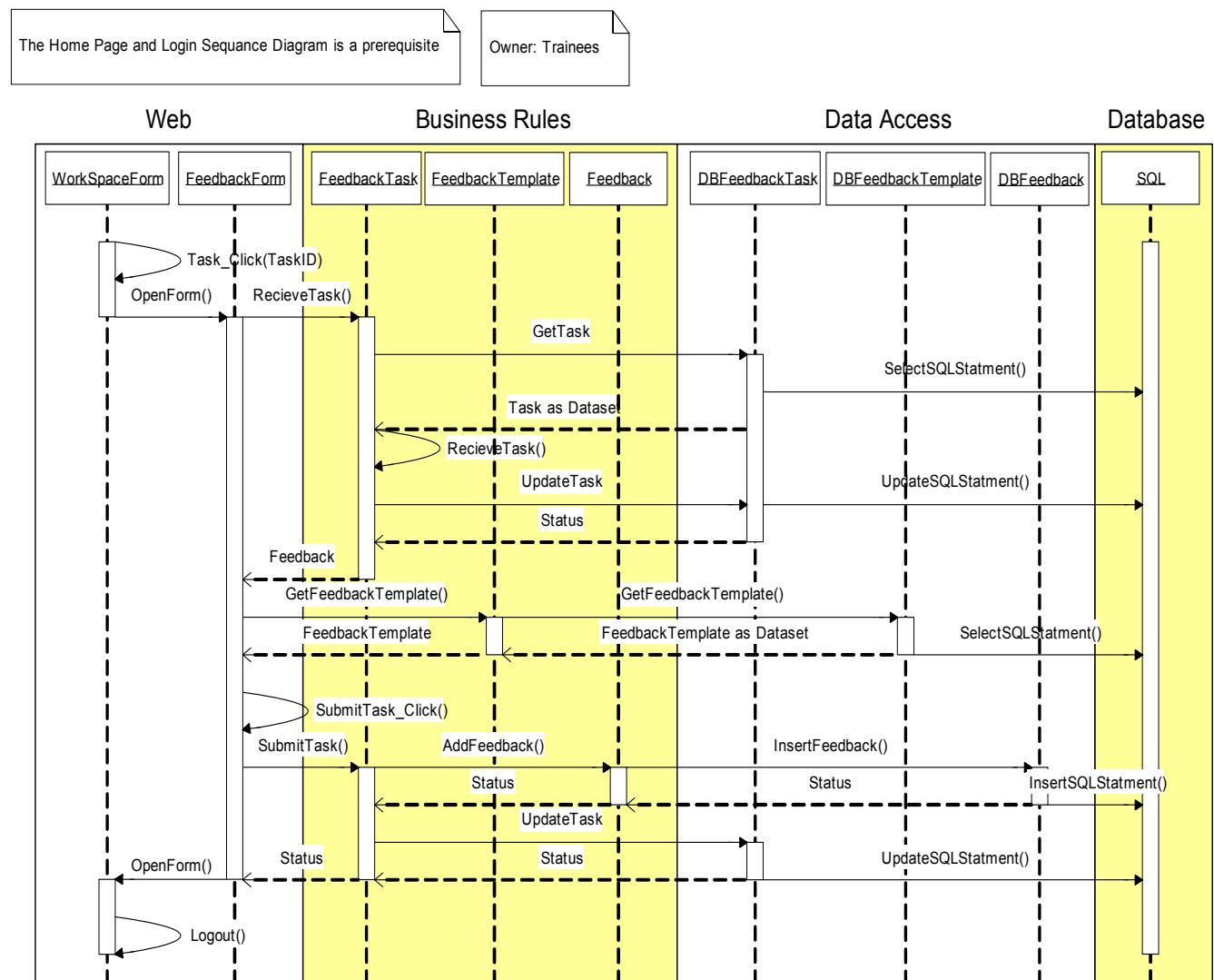
5.17 Sequence Diagram: Fill Attendance



5.18 Sequence Diagram: Lab and Training Close and Feedback Task Send

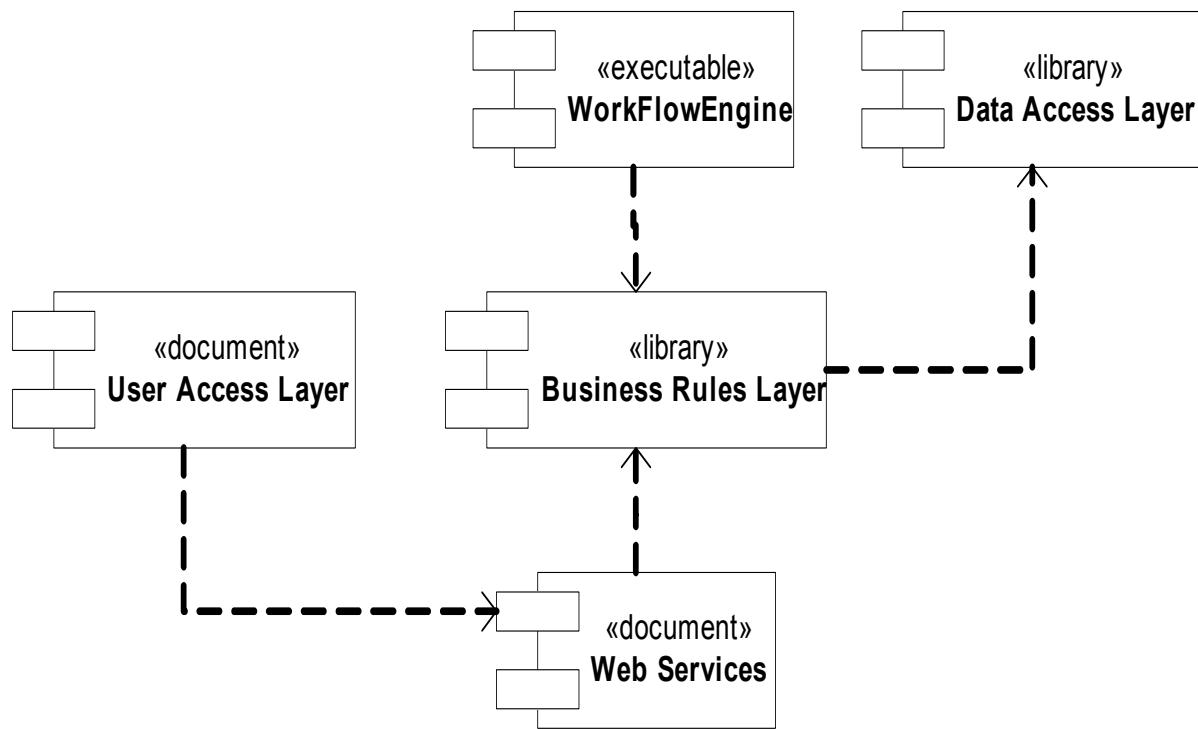


5.19 Sequence Diagram: Feedback Task



6 Process View

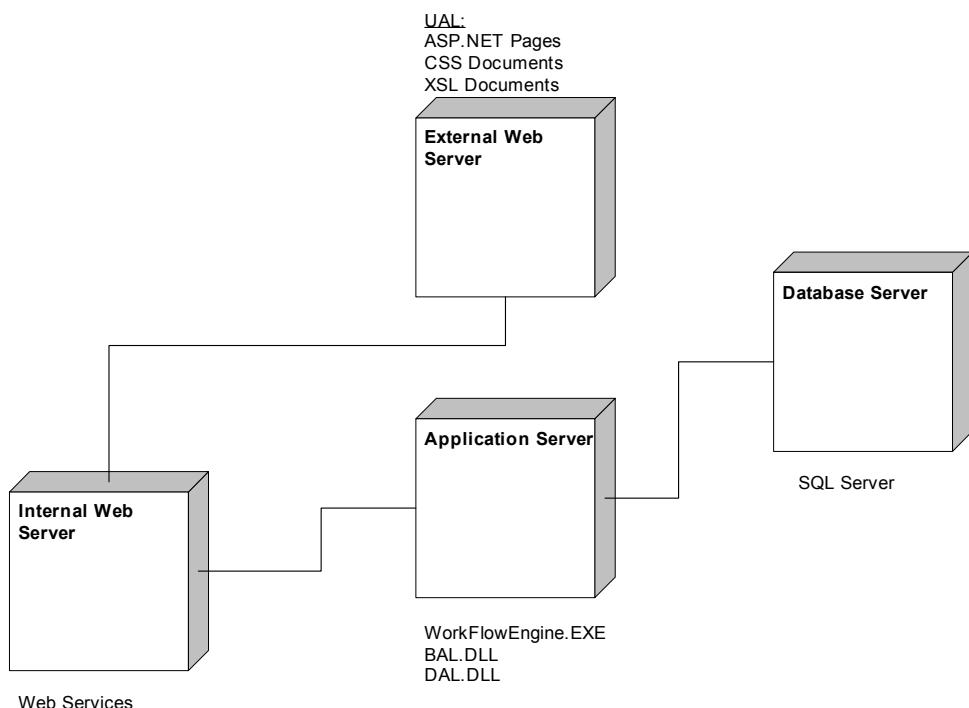
This section describes the system's decomposition into processes, or threads of control, and how they communicate or interact.



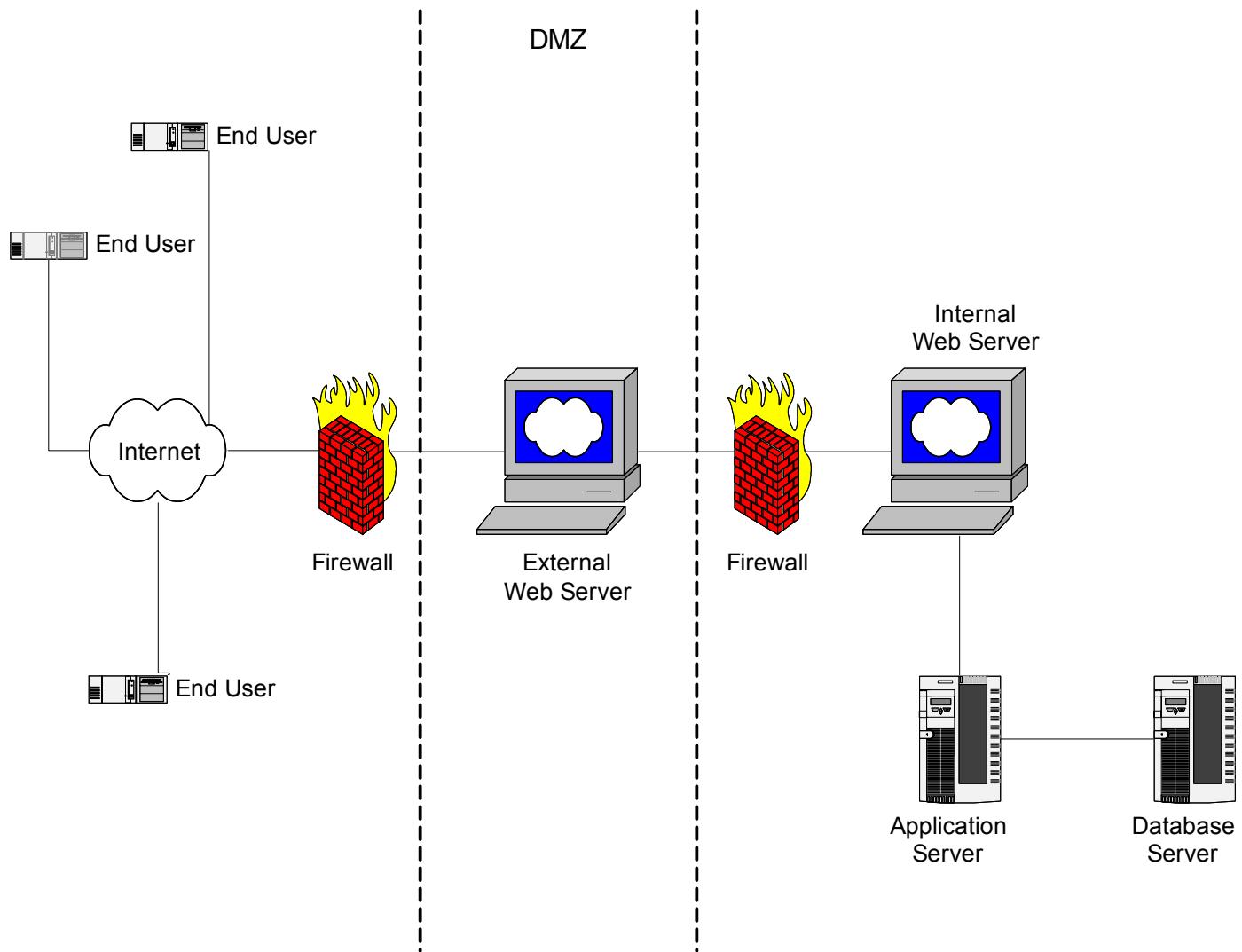
7 Deployment View

This section describes the hardware and network configuration on which the software is deployed and run. It indicates the physical nodes (computers, CPUs) that execute the software, and their interconnections (bus, LAN, point-to-point, and so on). Also included is a mapping of the processes of the Process View onto the physical nodes.

The Deployment Diagram is shown below. Note that we are suggesting the use of two Web Servers, an “external” Web Server to serve the Web pages to the end users, and an “internal” Web Server to host the TMS Web Services to be accessed by internal government client applications.



A suggested logical network topology for the deployment of the TMS is shown below. Note the use of a “Demilitarized Zone.” A demilitarized zone, commonly referred to as a DMZ, allows for an additional layer of protection between Internet-facing services and back-end corporate resources. Traditionally, web servers and mail gateways are located in the DMZ and are accessible and published from internet resources, but are still somewhat protected via firewall routing filters. These servers may certainly speak to back-end corporate resources, but would do so via another layer of firewall filters, further protecting these resources from the outside world.



7.1 Hardware Specifications

In this subsection, the minimum hardware specifications are presented.

7.1.1 Database Server Minimum Specification

Hardware

| | |
|----------------------------|---|
| Processor | Intel Pentium 4 Processor |
| Processor clock speed | 2Ghz |
| L2 Cache | 1MB |
| RAM | 1GB ECC SDRAM |
| Hard Drive capacity | 2*18GB (Mirrored for OS, Applications and log files) + 3*18GB (RAID 5 for data files) |
| Hard Drive interface type | SCSI RAID Controller |
| Tape Drive type | 4mm SCSI |
| Network Interface Card | PCI 10/100 Mbps |
| Other required peripherals | Floppy drive, CD-ROM drive |

Software

| | |
|-------|---|
| OS | Microsoft Windows 2000 Server with Service Pack 3 |
| RDBMS | Microsoft SQL Server 2000 with Service Pack 3 |

7.1.2 Application Server Minimum Specification**Hardware**

| | |
|----------------------------|----------------------------|
| Processor | Intel Pentium 4 Processor |
| Processor clock speed | 2Ghz |
| L2 Cache | 1MB |
| RAM | 1GB ECC SDRAM |
| Hard Drive capacity | 2*18GB (Mirrored) |
| Hard Drive interface type | SCSI RAID Controller |
| Network Interface Card | PCI 10/100 Mbps |
| Other required peripherals | Floppy drive, CD-ROM drive |

Software

| | |
|------------------|---|
| Operating System | Microsoft Windows 2000 Server with Service Pack 3 |
| Other Software | Microsoft .Net Framework |

7.1.3 Web Servers Minimum Specification**Hardware**

| | |
|----------------------------|----------------------------|
| Processor | Intel Pentium 4 Processor |
| Processor clock speed | 2Ghz |
| L2 Cache | 1MB |
| RAM | 1GB ECC SDRAM |
| Hard Drive capacity | 2*18GB (Mirrored) |
| Hard Drive interface type | SCSI RAID Controller |
| Network Interface Card | PCI 10/100 Mbps |
| Other required peripherals | Floppy drive, CD-ROM drive |

Software

| | |
|------------------|---|
| Operating System | Microsoft Windows 2000 Server with Service Pack 3 |
| Other Software | Microsoft .Net Framework |

7.1.4 End User PC Minimum Specification**Hardware**

| | |
|----------------------------|----------------------------|
| Processor | Intel Pentium 3 |
| Processor clock speed | 650 MHz |
| L2 Cache | 256 KB |
| RAM | 128 MB SDRAM |
| Hard Drive capacity | 20 GB |
| Hard Drive interface type | IDE |
| Network Interface Card | PCI 10/100 Mbps |
| Other required peripherals | Floppy drive, CD-ROM drive |

Software

| | |
|------------------|---|
| Operating System | Microsoft Windows 2000 Professional with Service Pack 3 |
| Other Software | Microsoft Internet Explorer 5 or above |

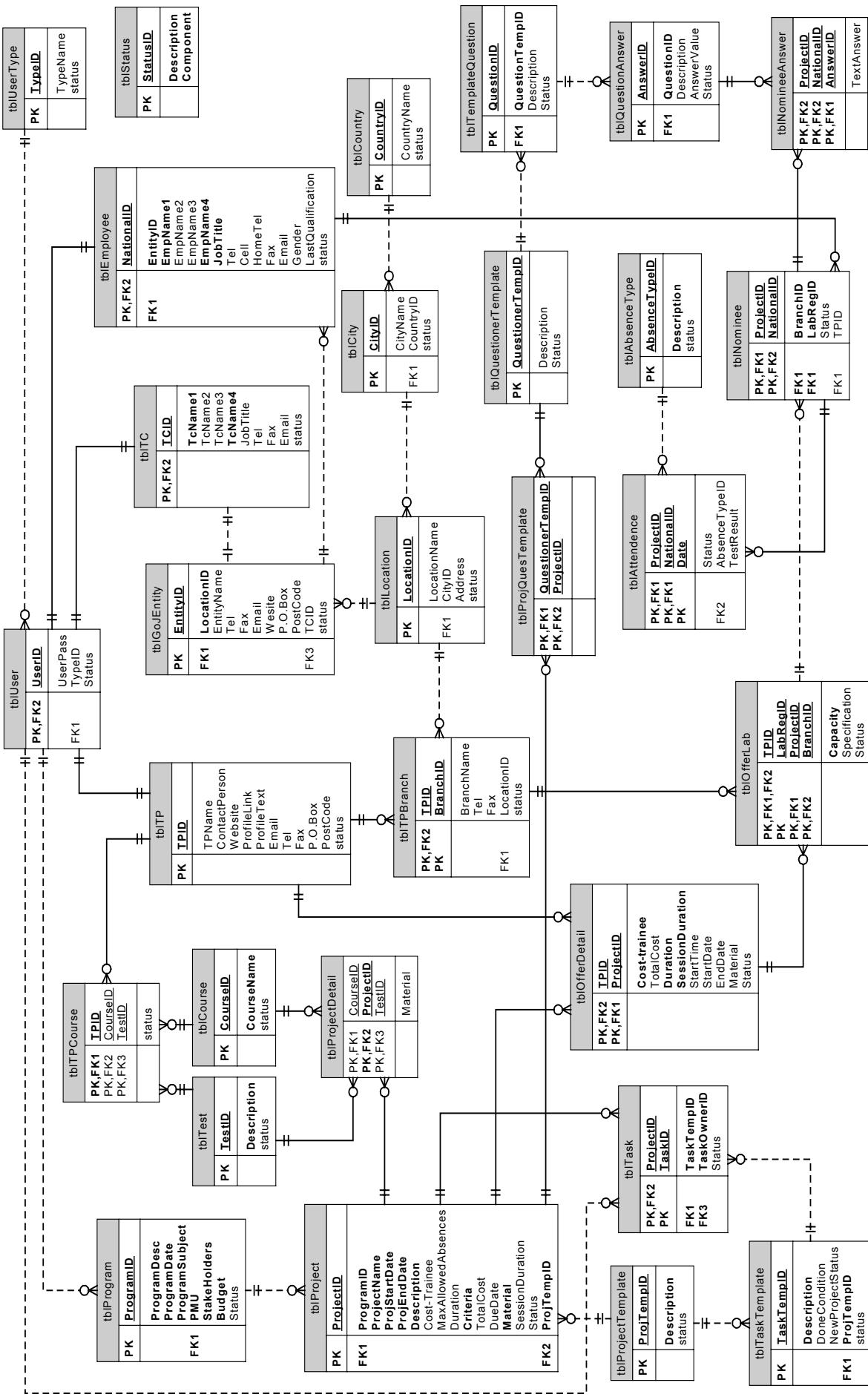
8 Data View

This section provides a description of the persistent data storage needed for the system to meet the requirements.

8.1 Entity-Relationship (ER) Diagram

Software Design Specification

Final Report



8.2 Entities

tblProgram

Description

Programs Definition.

Fields

| Name | Key | Foreign Key | Indexed |
|----------------|-----|-------------|---------|
| ProgramID | Y | | Y |
| ProgramDesc | N | | N |
| ProgramDate | N | | N |
| ProgramSubject | N | | N |
| PMU | N | tblUser | N |
| StakeHolders | N | | N |
| Budget | N | | N |
| Status | N | tblStatus | N |

tblProjectTemplate

Description

Lookup for project types.

Fields

| Name | Key | Foreign Key | Indexed |
|-------------|-----|-------------|---------|
| ProjTempID | Y | | Y |
| Description | N | | N |
| Status | N | tblStatus | N |

tblProject

Description

Projects definition.

Fields

| Name | Key | Foreign Key | Indexed |
|--------------------|-----|-------------|---------|
| ProgramID | N | tblProgram | Y |
| ProjectID | Y | | Y |
| ProjectName | N | | N |
| ProjStartDate | N | | N |
| ProjEndDate | N | | N |
| Description | N | | N |
| Cost-Trainee | N | | N |
| MaxAllowedAbsences | N | | N |
| Duration | N | | N |

| | | | |
|-----------------|---|--------------------|---|
| Criteria | N | | N |
| TotalCost | N | | N |
| DueDate | N | | N |
| Material | N | | N |
| SessionDuration | N | | N |
| Status | N | tblStatus | N |
| ProjTempID | N | TblProjectTemplate | Y |

tblTaskTemplate

Description

Task types.

Fields

| Name | Key | Foreign Key | Indexed |
|------------------|-----|--------------------|---------|
| TaskTempID | Y | | Y |
| Description | N | | N |
| DoneCondition | N | | N |
| NewProjectStatus | N | tblStatus | N |
| ProjTempID | N | TblProjectTemplate | Y |
| Status | N | tblStatus | N |

tblTask

Description

Work flow tasks.

Fields

| Name | Key | Foreign Key | Indexed |
|-------------|-----|-----------------|---------|
| ProjectID | Y | TblProject | Y |
| TaskID | Y | | Y |
| TaskTempID | N | tblTaskTemplate | Y |
| TaskOwnerID | N | tblUser | Y |
| Status | N | tblStatus | N |

tblCourse

Description

Lookup for different Training Courses.

Fields

| Name | Key | Foreign Key | Indexed |
|------------|-----|-------------|---------|
| CourseID | Y | | Y |
| CourseName | N | | N |
| Status | N | tblStatus | N |

tblTest

Description

Lookup for different types of Tests.

Fields

| Name | Key | Foreign Key | Indexed |
|-------------|-----|-------------|---------|
| TestID | Y | | Y |
| Description | N | | N |
| Status | N | tblStatus | N |

tblProjectDetail

Description

Training/Testing Project details.

Fields

| Name | Key | Foreign Key | Indexed |
|-----------|-----|-------------|---------|
| CourseID | Y | tblCourse | Y |
| ProjectID | Y | tblProject | Y |
| Material | N | | N |
| TestID | Y | tblTest | Y |

tblCountry

Description

Lookup for Countries.

Fields

| Name | Key | Foreign Key | Indexed |
|-------------|-----|-------------|---------|
| CountryID | Y | | Y |
| CountryName | | | N |
| Status | N | tblStatus | N |

tblCity

Description

Lookup for Cities.

Fields

| Name | Key | Foreign Key | Indexed |
|----------|-----|-------------|---------|
| CityID | Y | | Y |
| CityName | N | | N |

| | | | |
|-----------|---|------------|---|
| CountryID | N | tblCountry | Y |
| Status | N | tblStatus | N |

tblLocation

Description

Lookup for TP Locations.

Fields

| Name | Key | Foreign Key | Indexed |
|--------------|-----|-------------|---------|
| LocationID | Y | | Y |
| LocationName | N | | N |
| CityID | N | tblCity | Y |
| Address | N | | N |
| Status | N | tblStatus | N |

tblTP

Description

Training/Testing Provider definition.

Fields

| Name | Key | Foreign Key | Indexed |
|---------------|-----|-------------|---------|
| TPID | Y | tblUser | Y |
| TPName | N | | N |
| ContactPerson | N | | N |
| Website | N | | N |
| ProfileLink | N | | N |
| ProfileText | N | | N |
| Email | N | | N |
| Tel | N | | N |
| Fax | N | | N |
| P.O.Box | N | | N |
| PostCode | N | | N |
| Status | N | tblStatus | N |

tblTPBranch

Description

TP branches definition.

Fields

| Name | Key | Foreign Key | Indexed |
|----------|-----|-------------|---------|
| TPID | N | tblTP | Y |
| BranchID | Y | | Y |

| | | | |
|------------|---|-------------|---|
| BranchName | N | | N |
| Tel | N | | N |
| Fax | N | | N |
| LocationID | N | tblLocation | Y |
| Status | N | tblStatus | N |

tblTPCourse

Description

Training Courses/Tests provided by the TP.

Fields

| Name | Key | Foreign Key | Indexed |
|----------|-----|-------------|---------|
| TPID | Y | tblTP | Y |
| CourseID | Y | tblCourse | Y |
| TestID | Y | tblTest | Y |
| Status | N | tblStatus | N |

tblOfferDetail

Description

offer Details.

Fields

| Name | Key | Foreign Key | Indexed |
|-----------------|-----|-------------|---------|
| TPID | Y | tblTP | Y |
| ProjectID | Y | tblProject | Y |
| Cost-trainee | N | | N |
| TotalCost | N | | N |
| Duration | N | | N |
| SessionDuration | N | | N |
| StartTime | N | | N |
| StartDate | N | | N |
| EndDate | N | | N |
| Material | N | | N |
| Status | N | tblStatus | N |

tblOfferLab

Description

offer Labs registration.

Fields

| Name | Key | Foreign Key | Indexed |
|------|-----|-------------|---------|
| | | | |

| | | | |
|---------------|---|-------------|---|
| TPID | Y | tblTP | Y |
| LabRegID | Y | | Y |
| ProjectID | Y | tblProject | Y |
| BranchID | Y | tblTPBranch | Y |
| Capacity | N | | N |
| Specification | N | | N |
| Status | N | tblStatus | N |

tblTC

Description

Training/Testing Coordinator definition.

Fields

| Name | Key | Foreign Key | Indexed |
|----------|-----|-------------|---------|
| TCID | Y | tblUser | Y |
| TcName1 | N | | N |
| TcName2 | N | | N |
| TcName3 | N | | N |
| TcName4 | N | | N |
| JobTitle | N | | N |
| Tel | N | | N |
| Fax | N | | N |
| Email | N | | N |
| Status | N | tblStatus | N |

tblGoJEntity

Description

Government of Jordan Entities definition.

Fields

| Name | Key | Foreign Key | Indexed |
|------------|-----|-------------|---------|
| LocationID | N | tblLocation | Y |
| EntityID | Y | | Y |
| EntityName | N | | N |
| Tel | N | | N |
| Fax | N | | N |
| Email | N | | N |
| Wesite | N | | N |
| P.O.Box | N | | N |
| PostCode | N | | N |
| TCID | N | tblTC | Y |
| Status | N | tblStatus | N |

tblEmployee

Description

Government of Jordan Employees definition.

Fields

| Name | Key | Foreign Key | Indexed |
|-------------------|-----|-------------|---------|
| EntityID | N | | Y |
| NationalID | Y | | Y |
| EmpName1 | N | | N |
| EmpName2 | N | | N |
| EmpName3 | N | | N |
| EmpName4 | N | | N |
| JobTitle | N | | N |
| Tel | N | | N |
| Cell | N | | N |
| HomeTel | N | | N |
| Fax | N | | N |
| Email | N | | N |
| Gender | N | | N |
| LastQualification | N | | N |
| Status | N | tblStatus | N |

tblNominee

Description

Nominees registration.

Fields

| Name | Key | Foreign Key | Indexed |
|------------|-----|----------------|---------|
| ProjectID | Y | tblOfferDetail | Y |
| BranchID | N | tblTPBranch | Y |
| LabRegID | N | tblOfferLab | Y |
| NationalID | Y | tblEmployee | Y |
| Status | N | tblStatus | N |
| TPID | Y | tblTP | Y |

tblAbsenceType

Description

Lookup for Absence types.

Fields

| Name | Key | Foreign Key | Indexed |
|---------------|-----|-------------|---------|
| AbsenceTypeID | Y | | Y |
| Description | N | | N |

| | | | |
|--------|---|-----------|---|
| Status | N | tblStatus | N |
|--------|---|-----------|---|

tblAttendance**Description**

Attendance tracking table.

Fields

| Name | Key | Foreign Key | Indexed |
|---------------|-----|----------------|---------|
| ProjectID | Y | tblNominee | Y |
| NationalID | Y | tblNominee | Y |
| Date | Y | | Y |
| Status | N | tblStatus | N |
| AbsenceTypeID | N | tblAbsenceType | Y |
| TestResult | N | | N |

tblQuestionerTemplate**Description**

Lookup for Questioner Template.

Fields

| Name | Key | Foreign Key | Indexed |
|------------------|-----|-------------|---------|
| QuestionerTempID | Y | | Y |
| Description | N | | N |
| Status | N | tblStatus | N |

tblProjQuesTemplate**Description**

Project pre-defined Questioners .

Fields

| Name | Key | Foreign Key | Indexed |
|------------------|-----|-----------------------|---------|
| QuestionerTempID | Y | tblQuestionerTemplate | Y |
| ProjectID | Y | tblProject | Y |

tblTemplateQuestion**Description**

Lookup for Questioner Template Questions.

Fields

| Name | Key | Foreign Key | Indexed |
|------|-----|-------------|---------|
|------|-----|-------------|---------|

| | | | |
|----------------|---|-----------------------|---|
| QuestionTempID | N | tblQuestionerTemplate | Y |
| QuestionID | Y | | Y |
| Description | N | | N |
| Status | N | tblStatus | N |

tblQuestionAnswer

Description

Lookup for Questioner Template Question Answers.

Fields

| Name | Key | Foreign Key | Indexed |
|-------------|-----|---------------------|---------|
| AnswerID | Y | | Y |
| QuestionID | N | tblTemplateQuestion | Y |
| Description | N | | N |
| AnswerValue | N | | N |
| Status | N | tblStatus | N |

tblNomineeAnswer

Description

Feed back.

Fields

| Name | Key | Foreign Key | Indexed |
|------------|-----|-------------------|---------|
| ProjectID | Y | tblNominee | Y |
| NationalID | Y | tblNominee | Y |
| AnswerID | Y | tblQuestionAnswer | Y |
| TextAnswer | N | | N |

tblUserType

Description

User groups.

Fields

| Name | Key | Foreign Key | Indexed |
|----------|-----|-------------|---------|
| TypeID | Y | | Y |
| TypeName | N | | N |
| Status | N | tblStatus | N |

tblUser

Description

Users.

Fields

| Name | Key | Foreign Key | Indexed |
|----------|-----|-------------|---------|
| UserID | Y | | Y |
| UserPass | N | | N |
| TypeID | N | tblUserType | Y |
| Status | N | tblStatus | N |

tblStatus

Description

Lookup for statuses.

Fields

| Name | Key | Foreign Key | Indexed |
|-------------|-----|-------------|---------|
| StatusID | Y | | Y |
| Description | N | | N |
| Component | N | | N |

9 Reports

9.1 Report Layout Guidelines

Some reports contain three sections, the first section displays the Program Info, the second section will display the Project Info and the third section displays the data related to the report. Some reports have only two sections.

9.2 RFO/RFT Report (Sample)

| Ministry of Information and Communication Technology | | | | | | | |
|---|--|--------------------|------------------|--------------|--|------------------------------|------------------------|
| <u>Training Management System</u> | | | | | | | |
| <i>Request for Training/Testing Projects</i> | | | | | | | |
| Program description: ICDL Program | | | | | | | |
| Project Name | Project Description | Project Start Date | Project End Date | Request Type | Courses | Criteria | Total Cost |
| ICDL Phase1 | Training for Ministry of Health Employees. | 15/02/2003 | 15/05/2003 | RFO | Icdl - m1 Icdl - m2 Icdl - m3 | Text Text Text | 4000 1 Yes |
| ICDL Phase2 | Testing for National Library Employees. | 10/03/2003 | 10/06/2003 | RFT | Icdl - t1 Icdl - t2 Icdl - t3 Icdl - t4 | Text Text Text Text | 50 1 Yes Text |

9.3 Provided Reports and Filtering Criteria

The application will provide the following reports; the criteria displayed in the table below will be used to generate those reports.

| Report Name | Filters / Parameters | | | | | | | | | |
|---------------------|----------------------|----------------|--------|----|----|--------|-----------|----------|--------|----------------------|
| | Program Name | Date From - To | Entity | TC | TP | Branch | Lab/Class | Employee | Gender | Latest Qualification |
| RFO/RFT | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| ARFO/ARFT | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| ARFO/ARFT Response | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| Nomination | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| Registered Nominees | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| Attendance | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| Absentees | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| Evaluation | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| RFO/RFT history | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| Pass Rate | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| Total Cost | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |
| Cost per Entity | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ | ⬆️ |

10 Security Model

This section describes the User Groups and their access rights to the various parts of the system, including screens, menus and menu items, data entities, and reports.

1. MoICT Project Management Unit users: full control over the system; ability to update the system control data (lookup data); ability to generate all reports.
2. Training/testing center administrators: of less power than the PMU; maintain his/her center related information; ability to update training attendance/absence and results, and testing results; ability to submit training/testing offers.
3. Government of Jordan entity administrators: of less power than the PMU; ability to administer their own employees; ability to nominate their employees for training/testing.
4. Ability to view their own training/testing history and provide training evaluations.

The Application Security Model consists of the following User Groups and Users.

System Administrator

This user has a full privilege on the application, the system administrator creates all Programs and he/she assigns the PMU to manage this program and the projects under it.

PMU User Group

This group of users, have less privilege than the System Administrator, those privileges include:

- Creating the RFO/RFT/RFI projects
- Approve/Reject the offers from the Training/Testing providers
- Approve/Reject the nomination
- Issue the “Go” Signal for a Training/Testing Project
- Creating the Feedback Templates

TP User Group

The Training/Testing Providers group of users can manage the RFO/RFT/RFI Responses to the PMU, and they provide and update their information. Privileges include:

- RFO/RFT/RFI Response
- Training/Testing Center information update including branches, location, courses, etc.
- Fills the daily attendance

TC User Group

The Training/Testing Coordinators group represents the Government of Jordan training coordinators. They manage the RFN/RFR Responses to the PMU, and they provide and update their information. Privileges include:

- RFN/RFR Response
- GoJ Entities information update including Employees information
- Create the Nomination list
- Register the nominated employees in different Training/Testing Centers.

GoJ Employee

This group consists of all the Employees that participated in a specific Training/Testing Project. The smallest number of privileges is given to this group, mainly to fill the feedback forms upon completion of the Training/Testing Project.

Appendix – User Interface Standards

Goals

- To Have a unique and consistence colors in the system pages.
- This will help in building a solid E-Gov User Interface.
- To have the same look and feel for all the E-Gov Projects.

The user interface standards have already been submitted and approved.

Appendix – Coding Standards

Software development coding standards will be used during programming. These standards are available upon request.